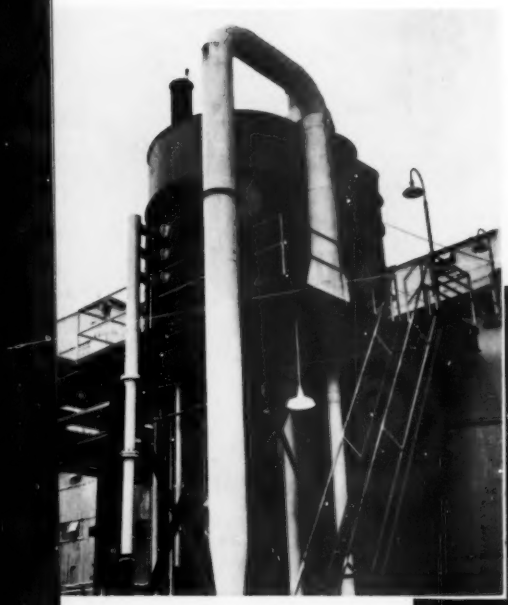
PULP & PAPER

February 6, 1961



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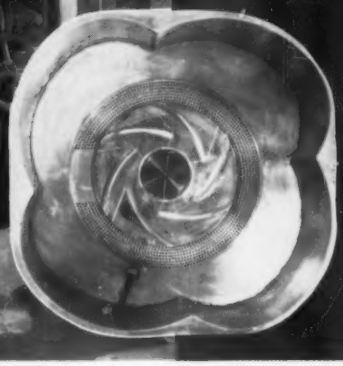
PULPING TIME QUARTERED

H.P. CUT 400%

with Emerson Triple Attack Pulper



Lobe shaped, tapered tub walls, conical bottom, heavy, balanced action bottom rotor and extraction plate.

TRIPLE ATTACK

"THIS PULPER has exceeded our fondest expectations of what a pulper would do," reports an engineer at a large mid-western paper company.*

No wonder! Since an Emerson Triple Attack Pulper was placed in service at this mill, the time required to break up wet strength broke has been cut from 6 hours (beater) to 1¼ hours. Power consumption dropped 400% — from 25 HP/Tons/Day to 6¼ HP/Tons/Day. Slushing took 2 hours in a beater. Now, the pulper does it better in 40 minutes.

The Emerson Pulper requires but a single operator — takes a 2000 lb. charge at one time. Maintenance is negligible. Requires no replacement parts. Conserves valuable floor space. Clean operating — no splash. Heat loss is slight. Dumping is fast and complete.

The Emerson Triple Attack Pulper is noted for its thorough, uniform defibering in the shortest cycle time. This is achieved by advanced engineering that combines a lobe-shaped, tapered tub wall, conical bottom and heavy, balanced action, bottom rotor. In operation, four stock flows are developed which form an interweaving, overlapping pattern with no "dead spots." All fibers in every charge receive an equal share of the applied energy. *Triple attack* pulping results from 3 distinct defibering actions — impellor to fiber, fiber to tub wall, and fiber to fiber.

Emerson Triple Attack Pulpers come in nine sizes — 100 to 8000 lb. units. Each unit defibers virgin or waste stock at 8% to 12% consistency and delivers fast, uniform defibering with a minimum of required energy.

For full information on how the Emerson Triple Attack Pulper can help you improve production and cut operating costs, get in touch with The Emerson Manufacturing Co., Division of John W. Bolton & Sons, Inc., Lawrence, Massachusetts.

*Name on request.

BOLTON EMERSON TRADE MARK

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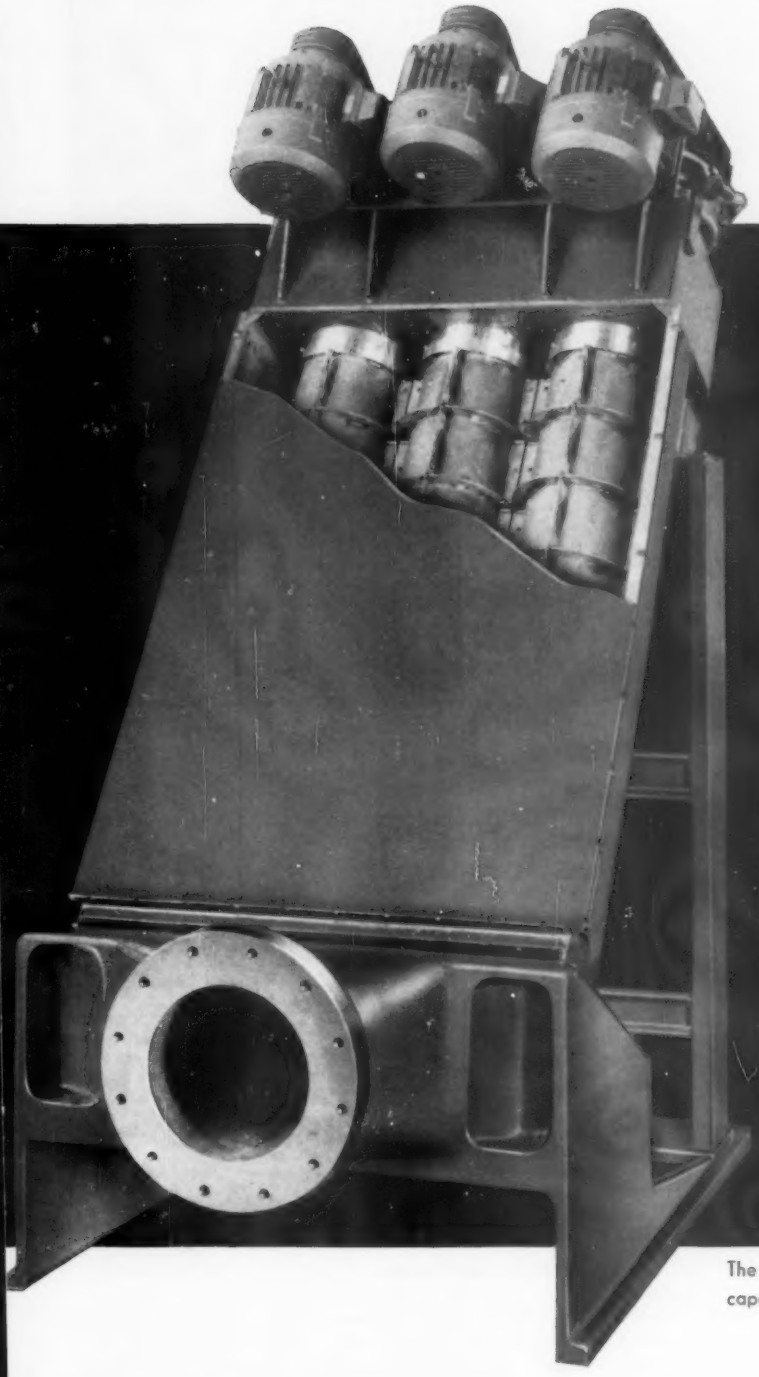

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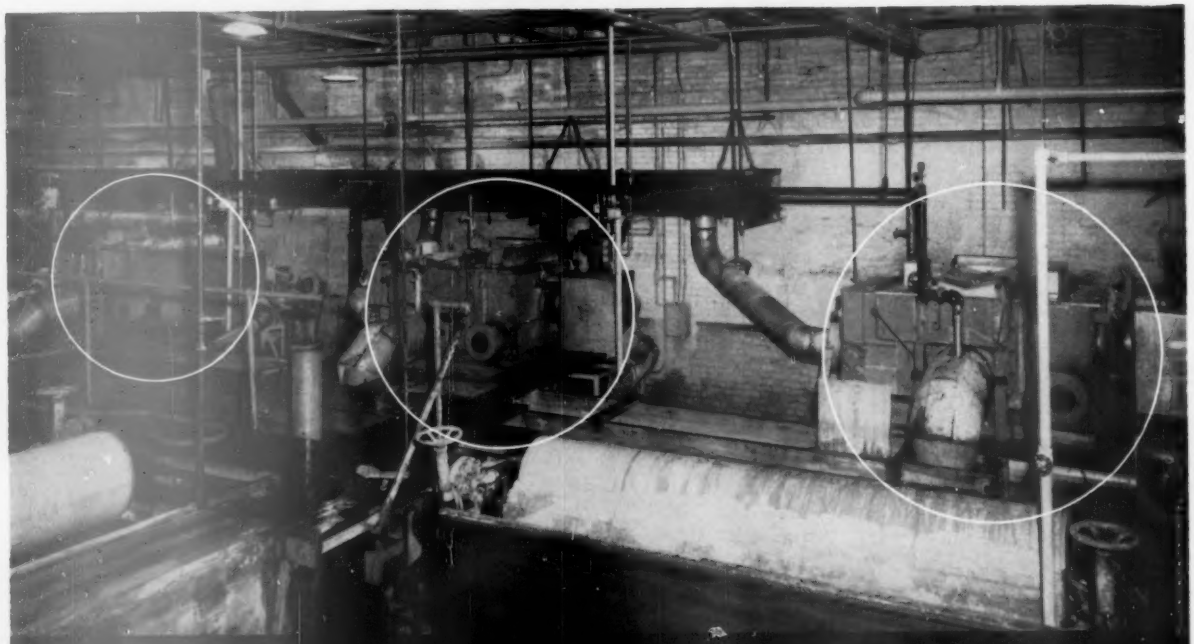

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PULP & PAPER

NEWS DIGEST...

Canadian production up 5% in '60
but President R. M. Fowler of CPPA, during speech reported below, said, "We will be lucky to advance another 2% in 1961. We can't always outstrip the rest of the economy." He called 1961 predictions "doggedly optimistic."

U.S. firms control 32% of Canadian pulp-paper
companies. British control 11%. U.S. companies' original investment and retained earnings total one million dollars. U.S. controlled companies provide 42% of Canadian exports of pulp and paper to the U.S. If U.S. investments had gone elsewhere, Canada would be shipping only $525 millions in products annually to U.S., instead of $900,000,000.

Canadian newsprint production at all-time high
of 6,738,611 tons in 1960. In 1961 Canadian newsprint capacity will increase 125,000 tons, while Scandinavian rises 330,000 tons, said Mr. Fowler. But Julian Merrill, president, Ontario Forest Industries Assn., predicted production will remain below capacity, while exports of newsprint will decline 135,000 tons in 1961.

Pulp prices, production discussed in Montreal
but mostly behind closed doors. Startup of the new Celgar mill, Arrow Lakes, B.C., reopening of the Woodfibre plant in B.C. as a kraft instead of sulfite mill, and doubling of Thurso's kraft capacity will increase available North American market pulp by 350,000 tons in 1961.

Coldest Canadian meeting in years sets record
as registration for Technical Section meeting in Montreal totalled 1,427 (20 above 1960 figure), despite reports of austerity programs in U.S. and Canadian mills. The weather, from 5 above to 15 below zero, kept nearly everyone indoors at the sessions.

In U.S., midwest paper mills are perking up
and New York mills show some improvement, but New England is weak, report Canadian pulp producers who sell these mills. Even with a bad year for dissolving pulps in 1960 (decline of 11% in Canada), pulp operating rates of market mills rose to 90% in U.S., to 88% in Canada. Overseas demand pushed rates up.

B.C. Forest Products projected 350 tons/day
newsprint mill alongside its kraft mill at Crofton, B.C., is biggest expansion news currently. There are plans or talk of 6 more Canadian and 7 more U.S. newsprint mills (see pages 15-17).

"Point of No Return" for Common Market
is reached as another tariff reduction puts this economic union in real business. Editor A. W. Wilson, just back from the scene, reports trend to Belgium and Italy by U.S. and British firms seeking Common Market footholds.

World trade will theme annual N.Y. Paper Week
Some 3,000 to 4,000 are expected at the sessions. A major interest will be what the industry may expect at hands of Kennedy administration (page 9).

. . . CPPA ANNUAL MEETING

"Deteriorating" Canadian Relations

Fowler warns of possible "undesirable legislation" if U.S. firms fail to provide "de-centralized, autonomous Canadian managements"

By ALBERT W. WILSON
Editor, PULP & PAPER

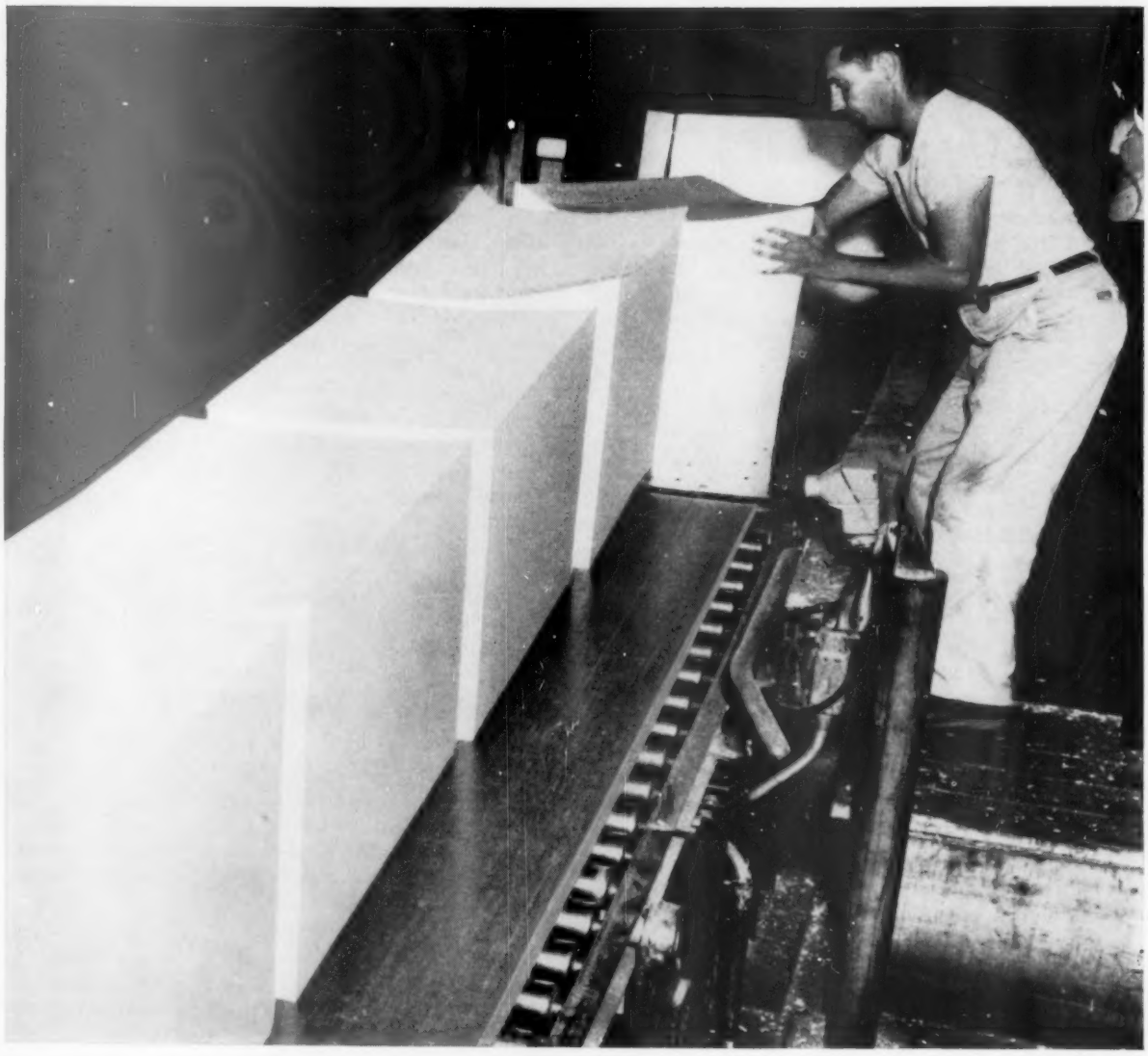
MONTREAL—One of the most controversial subjects today in Canada—and many Americans don't even know it is a flaming issue north of the border—provided a dramatic climax on Jan. 27 to the 48th annual meeting of the Canadian Pulp and Paper Association.

President Robert M. Fowler of CPPA devoted virtually his entire annual address to what he called "the deterioration of relations between Canada and United States." His audience of about 1500 leaders of Canadian and American paper and allied industries was the largest mixed gathering of this leadership to be assembled anywhere this year.

Mr. Fowler didn't mince words. American companies, which now control one-third of the Canadian pulp and paper industry, must provide "decentralized, autonomous Canadian management" in their subsidiaries. There must be "full awareness and sympathy for the interests of Canada."

If this isn't done, he warned "we may be faced with undesirable and ineffective legislation." He doubted the problem could be solved by legislation.

Made-in-U.S.A. decisions
just won't do for Canada, said Mr. Fowler. "A subsidiary can sell stock to Canadians, have Canadian personnel throughout and give generously to



Koroseal makes a clean haul of dissolving pulp

Smooth, nonporous conveyor belt is easy to clean, nonmarking

A company that manufactures dissolving pulp was having plenty of trouble with coated canvas conveyor belts. The belts carry stacks of this pulp which must be kept perfectly clean. Trouble was the belts cracked, were hard to clean, and weren't smooth enough to allow the stacks to shift on the belt. So when a belt was brought to a sudden stop, some of the stacks would pitch off and fall to the floor.

When a B.F.Goodrich distributor heard of the problem, he recommended a belt made of Koroseal flexible material. The Koroseal belt has a smooth, nonporous surface. It lets the stacks slide a little when the conveyor stops, instead of jolting them off onto the floor.

The Koroseal belt shown above has now been in use four years, has not cracked, is easy to keep clean.

Koroseal conveyor belts resist scuffing, tearing, cutting. And they stand oil, grease, most acids, and just about everything else that ruins other conveyor belts.

Your B.F.Goodrich distributor has full information on the Koroseal belt described here. And, as a factory-trained specialist in rubber products, he can answer your questions about the many other products B.F.Goodrich makes for industry. *B.F.Goodrich Industrial Products Co., Department M-947, Akron 18, Ohio.* Koroseal—T. M. Reg. U. S. Pat. Off.

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CONVEYOR BELTS

charity, but if most of the decisions are made back in the home office by men whose interest in the Canadian operation is no greater than, and often less than, in a dozen similar operations throughout the world, then that subsidiary is not being a fully Canadian corporate citizen."

At another point, he declared many former Americans now heading Canadian companies have become Canadian citizens "and are among our most vigorous and respected leaders." But some others "provide unfortunate examples of behavior that can all too readily be generalized into criticisms of U.S. subsidiaries in Canada."

Criticizing some Canadians, too

Mr. Fowler led into his subject by rebuking those whose "anti-Americanism" . . . "masquerades as rugged, independent Canadianism," catching "cheap and easy popular acclaim, which is dangerous and may be disastrous."

He perhaps was thinking of the headlines in Canada over the Canadian magazines fighting a losing battle for advertising with American imports, as some of his audience was. American-owned magazines were accused of misinterpreting Canadian facts and interests.

"The time has come for us Canadians to take this large chip off our shoulder," said Mr. Fowler. "We have become foolishly sensitive and critical. We seem to have the idea that somehow our birthright has been stolen. But we welcomed this investment when it came to Canada . . . We could have said we did not want it and it would have gone elsewhere. Its results have been, by an overwhelming margin, beneficial to Canada.

"I suggest we stop moaning and groaning about it, stop viewing with alarm, stop beefing about it. But having said this, I would like to say to my American friends that there is some basis for Canadian anxieties and resentments toward the U.S. that Americans have been slow to realize. I have noticed that when Americans establish business ventures in other countries—let us say, Mexico or France—they are very careful to take account of local susceptibilities and adapt themselves to local conditions."

Canada is another country

but Americans are not conscious they are in another country in Canada, he added, rather ruefully, and "pay us the compliment of treating us as if we were all the same." But, he said, "the plain fact is we are not the same."

At one point his talk was interrupted by cheers. This was when he compared U.S. as the great "free world leader" with Canada as a potential leader of smaller powers—adding "as the French say in a slightly different context," 'vive la différence.' " These three French words comprised the title he selected for his address in its printed form.

At another point, he drew friendly laughter from Americans and Canadians when he said that in last year's U.S. Senate foreign policy debate, trade with Canada was not even mentioned "though it is larger than all U.S. trade with South America or all its trade with the European Common Market." He said he could not recall any mention of Canadian-American relations by either Democrats or Republicans in the 1960 campaign and that relations with the United Arab Republic had "loomed larger in the debate" than had relations with Canada.

Comments on Fowler Speech . . .

Reactions of Canadians and Americans to the Fowler speech were often as sharp as his own remarks—whether approving or disapproving. PULP & PAPER made a quick check with important industry leaders, both Canadian and American, within a few minutes after the address. Here is what they said:

"We must do something to close this gap."
"A good thing this matter has been aired here."
"A public speech is not the way to solve this problem."
"It's rubbish; anti-American feeling is only skin-deep."
"It is time someone spoke out about this."
"The press will exaggerate the worst things he said."
"I would not invest another dollar in Canada."
"U.S. investments pulled Canada through tough years."
"The Russians would like nothing better than to see us divided."

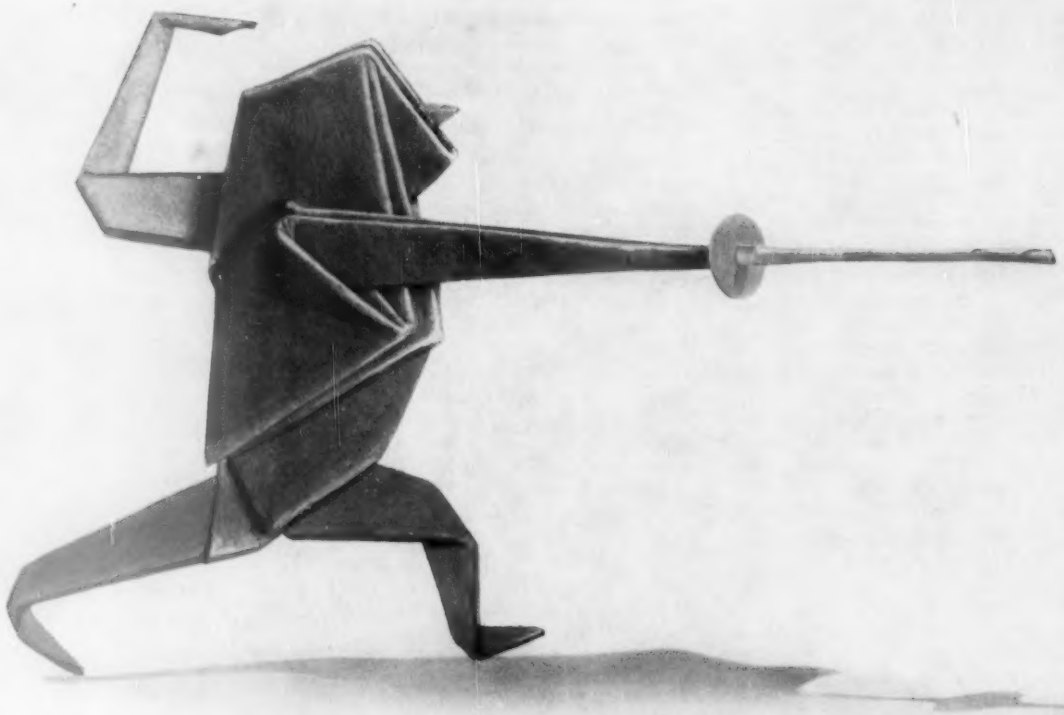
One Canadian-born Canadian company president was mildly amazed. "It's the first time I ever heard the entire president's annual speech devoted to international affairs."

ROBERT M. FOWLER
warned CPPA group that "overly-touchy Canadian attitude . . . American ignorance and massive insensitivity toward Canada . . . are not only irritating but a serious mistake."

LUCIEN G. ROLLAND
introduced as new chairman of CPPA after Mr. Fowler's speech. President and gen. mgr. of Rolland Paper Co. since 1952, he is 44, and started with Rolland as plant engineer at Mont-Rolland. He succeeds George S. Currie, Bowater Corp., as CPPA chairman. Mr. Currie and V. E. Johnson, CIP, were elected vice chairmen.

HOWARD WHITAKER
president of American Paper & Pulp Assn. and chairman of Mead, spoke for U.S. delegates: "We face new competition from other industries . . . the next generation of papermakers is taking over. Those who don't think as they do will find themselves on the sidelines."

Paper sculpture by Giuseppe Baggi



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Canadian mills must cut costs to compete

Canadian mills must practice closer cost control in order to compete in newsprint with the Southern U.S.A. mills, and in pulp and newsprint with mills in Scandinavia.

On this theme, Weston (Wes) Bennett, vice president in charge of Canadian International Paper Co.'s engineering, bowed out as the chairman of the Canadian Technical Section. He then turned over the gavel at the group's luncheon in Montreal on Jan. 26 to E. L. Neal, president and general manager, Gaspesia Sulphite Co.

"There is a terrific consumption of labor from the tree to the mill and much more can be done to cut costs in the production and the delivery of pulpwood," said Mr. Bennett.

Mr. Bennett's parent company is the biggest producer in the Southern U.S.A. and he himself started in the industry many years ago in IP's New York engineering office, but he didn't hesitate to point out the South has lower costs, investments, wood, etc., and U.S. newsprint production went up 750,000 tons, mostly in the South, in the past five years while Canadians were increasing their newsprint output only 400,000 tons.

He recalled recent figures which have been published here on Scandinavian increases (950,000 tons more market pulp in Sweden by 1964; a pulp capacity increase of 39% and 41% in paper in Finland by 1962) and he said Russia is "giving high priority to pulp and paper and will not hesitate to enter the world market where and when it will gain political or material advantage."

Higher yield, continuous cooking are major interests in Canada, Mr. Bennett said in an interview. The Montreal press featured his remarks about throw-away paper surgeon's gowns and tennis togs and other new paper products. But, he said, these novelties were secondary to the trend toward greater yield from wood and new cooking processes.

One Canadian mill is testing a new continuous cooking unit for a specially developed sulfite pulp grade.

George C. Brown, vice president and general manager, Price Brothers, was elected the new vice chairman of the Technical Section. Newly elected councillors for three-year terms are Dr. R. M. Dorland, director of research, Abitibi Power & Paper Co.; E. T. Buchanan, manager, Consolidated's Laurentide division; and A. D. Hamilton, production manager, Quebec North Shore Paper.

Award for press section research was made for the first time in 15 years when the coveted Weldon Medal for 1960 went to P. B. Wahlstrom, of Karlstads Mekaniska Werkstad, paper machinery firm of Karlstad, Sweden. He made a study of water removal and moisture distribution on a Quebec City newsprint machine. The last press section research work to win the medal open to senior members was done by Francis Albert Garrett, CIP, now retired.

James A. Warburton, steam plant engineer, CIP Temiskaming mill, won the F. G. Robinson award for outstanding services for his committee work and service on a national fuel investigation.

U. Mai Aung, cellulose researcher in Rangoon Burma, won the C. Howard Smith medal for work on bleaching of bamboo pulp. This was for a junior member of the section. Gadget prize winners were L. Gaudet, Howard Smith Mills, Cornwall; D. H. McKay, Penobscot Chemical Fibre (Maine); and H. Miller, Alliance Paper Mills, Merritton, Ont.

WESTON T. BENNETT retiring chairman of Canadian Technical Section, v.p. in charge of engineering, Canadian International Paper Co., in his "farewell" warned that Canada "must get costs down by closer controls" in order to compete with Southern U.S.A. and Scandinavia. Russia, even though its own demand exceeds supply, "will not hesitate to enter world markets if it means political or material advantage."

Summaries of Technical Papers

Eldema Electronic Detection Machine—Claude Rinfret, Rolland Paper Co.

The highest sensitivity Eldema made by Nash & Harrison Ltd., used on a specially designed rotary cutter at Rolland's St. Jerome, Que., mill has been seen and inquired about by paper men from Australia, New Zealand, Sweden, Germany, Norway, Russia, France, England, etc. The Eldema heads detect defects as the web flows under them to draw rolls. These are evaluated by Eldema control units and transmitted to the computer which energizes a solenoid valve at the selecting gate and rejected sheets assemble at a bottom reject lay-boy. The cutter-layboy unit can sort and cut sheets at a maximum speed of 600 fpm or 250 cuts per minute, whichever is greater (Eldena lower sensitivity machines are manufactured for all papers).

Sorting efficiency was found to be over 95% efficient, much better than 65 to 70% by hand methods. The machine picks up very small black spots or bumps. It tests well with rag and rag content papers and even was worthwhile for sulfite bond and offset papers. It is expensive but built for easy maintenance and low downtime.

The authors predicted future sorting devices will be placed directly on rewinders or, even better, directly on the dry end of the paper machine because "it is better to find out at the end of the machine if a roll is not good, rather than 6 or 7 hours later."

Aspects of Printability Evaluation —G. Verhoeff, L.M. Lyne and W. Gallay, The E.B. Eddy Co.

Formation can be evaluated against numerical standards or with electronic scanners while levelness is best measured by the gravimetric method described by Dr. Gallay at Technical Section's 1960 summer meeting. Methods of measuring ink absorbency were examined. Authors decided the method described by Voet & Brand gives the best indication of ink strike-through. "We automated their method and

Continued on page 56

...Fluid Power news

OILGEAR 40 Years of Fluid Power

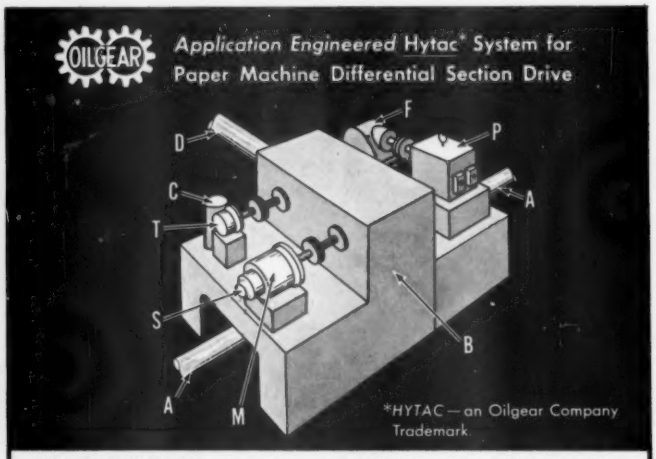
From Oilgear Application-Engineering Files

HOW *HYTAC** SYSTEMS PRECISELY CONTROL SECTION SPEEDS OF VERSATILE NEW PAPER MACHINE

BUILDER: *Paper Machine and Differential Drives — Beloit Iron Works, Beloit, Wis.*

DATA: Systems to individually vary and precisely control speed and draw on six sections of a new, versatile, 192-in., 90-ton capacity, Beloit fourdrinier paper machine designed to produce a variety of finished stock ranging from 33-lb toweling up to 190-lb food board. For 200- to 2000-fpm production operation—a range not previously considered practical—main lineshaft speed to be adjustable over this 10:1 range. Beloit mechanical differentials to be used at each section. **REQUIREMENTS:** 1. Precise speed and draw control for each section—infinitely variable up to 10% under main lineshaft rpm—from simple, remote, push-button control panels. 2. Maintain each selected section speed within ±0.25% max. variation over a 50% load change at max. lineshaft speed. 3. Must be compact; frugal on electrical power input; insure trouble-free, continuous, heavy-duty, full-production paper machine drive service, and still provide maximum adaptability for short runs. 4. Be impervious to high humidity and high-pressure wash-downs. 5. One reputable source and responsibilty for these speed and draw control systems preferred.

Drive side of this versatile, new paper machine. "... to give perfect draw and speed control over an unprecedented wide range" ... six Beloit differential drives incorporate *HYTAC** *Systems*—indicated by arrows. This machine consumes approx. 39,000 tons of pulp per year in the production of grades ranging from 33-lb bleached and unbleached toweling to 190-lb coated or calendered food board.



HOW DRIVE WORKS: One of the six combined *HYTAC** and Beloit differential drives is shown schematically above. The turbine-drive lineshaft (A) drives all Beloit Mechanical Differentials (B). Controlled *Fluid Power* is delivered by Oilgear Variable Displacement Pump (P) driven by Differential (B) through Speed Increaser (F). *Fluid Power* from Pump (P) drives an Oilgear Constant Displacement Motor (M) to decrease speed of Section Drive Shaft (D). Oilgear Variable Displacement Master Tachometer (T) driven by Differential (B), and controlled remotely by electric Pilot Motor (C) delivers controlled low-pressure fluid to Oilgear Constant Displacement Slave Tachometer (S)—directly connected to Motor (M). Fluid in branch line from tachometer system operates hydraulic control on Pump (P). Operator can infinitely decrease rpm of Section Drive Shaft (D) up to 12% under lineshaft rpm—over entire 10:1 lineshaft range—by local or remote pushbutton stations connected to Pilot Motor (C) on Master Tachometer (T). Changing volume and/or direction of flow in tachometer system accurately changes volume and/or direction of fluid flow from Pump (P) to Motor (M). When main lineshaft rpm is increased or decreased, *HYTAC** System automatically, precisely synchronizes Driveshaft (D) rpm. All factors such as changes in load or temperature are automatically compensated for by these *HYTAC** Systems to maintain exact, set degree of section synchronization at all times.

SOLUTION: Application-Engineered *HYTAC** controlled differential drives provide precise, individual speed control on each of the following six sections of this new paper machine—20-hp Oilgear *Any-Speed* Drives on size press, 4th dryer, winder reel; 35-hp drives on 3rd dryer, 1st calender, 2nd calender. A typical *HYTAC** and Beloit differential section drive and its components are shown schematically, right.

These systems maintain any selected, individual section speed with less than ±0.25% variation regardless of load change over the entire 10:1 range of lineshaft speed . . . plus enabling operators to infinitely vary each section's drive rpm independently up to 12% under main lineshaft rpm.

A special slack take-up feature facilitates rapid change-over on short runs. This "Oilgear-Plus" feature operates from a momentary, over-ride, control panel pushbutton to rapidly take any one or all sections from threading speed to the desired production speed. Other "Oilgear-Plus" features are: 1. Cushioned, controlled starting, accelerations, deceleration, braking. 2. Positive, automatic overload protection. 3. Constant pressure and flood lubrication with continuous power fluid filtration. 4. A heavy-duty, long-lived, trouble-free, efficient, *sealed system*—impervious to high humidity and washdowns. 5. Complete freedom from maintenance-provoking belts, chains, or relays.

These Oilgear-Beloit Systems enable operators to equalize draw between sections, to increase draw or slack at specific sections, and to prevent overload on one or more sections.

They have met or exceeded all originally specified requirements. In this age of special, single-purpose machines, this new paper machine is unique in its versatility—being fully capable of long runs, it is, however, particularly adapted and used for short runs — competitively producing the many different types, weights, and finishes of stock. • . . . In addition, an 800-ton *Washington Iron Works* pulp baling press, and a *MURCO Wood Splitter* in this mill are also equipped with *Oilgear Application-Engineered Fluid Power Systems.*

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Industry girds for Paper Week

Some 3,000 to 4,000 expected by APPA, TAPPI and APA

NEW YORK—In what promises to be the most penetrating and serious series of meetings yet held, an estimated 3-4,000 industry leaders will converge here the week of Feb. 20 for their annual technological, inspirational and insomniac endurance contest – Paper Week.

While some 3,000 TAPPI members attack technical problems in 29 sessions at their old standby, the Commodore Hotel, problems of imbalance will be thoroughly probed at the Waldorf-Astoria by the APPA. At the Roosevelt Hotel, the APA will take apart pulpwood problems and see what makes them tick.

TAPPI meeting topics

run through a wide range from manpower to microbiology, from chemical methods to corrosion, from graphic arts to corrugated board. Its 50 technical committees will tackle their agendas individually as will the executive committee, which will name a new president, among other things. TAPPI will also provide an employment clearing house for individual members and corporations.

Supervisory people will find the manpower symposium of special interest. Its chairman, W. G. Thorpy, of the Office of Civil and Defense Mobilization, will lead discussions on the role of engineering technicians in relieving technical personnel from nonprofessional tasks; parallel incentive systems for non-supervisory and supervisory people, and the first "five year plan" of the engineers joint council for professional development.

The chemical methods session will study problems related to lignin determination in small wood samples, fiber blend analysis, studies of degraded cotton celluloses, fluorescence in cellulosic polymers and pH measurement. Corrosion problems will also be highlighted in a special session. Among the specialized papers will be one on electrolytic corrosion protection, another on chlorine dioxide bleach corrosion, the result of a questionnaire project headed by Union Bag-Camp's bleaching expert R. L. Wheless. Tall oil process corrosion will also be studied as well as the specifications for 304 stainless steel for use in evaporators.

World trade will theme

several meetings of the American Paper & Pulp Assn. and its many federated associations. The industry's interest in export potentials grows stronger. This is evident in the recent attendance by several U.S. leaders at the FAO conference on developing the paper industry in the Far East, held last October in Tokyo, and the fact that APPA Executive Secretary Robert O'Connor has just made his third overseas trip in as many years. Following the Tokyo conference, Mr. O'Connor visited industry leaders in Europe, has just returned a few days ago from another trip to Rome for a meeting with FAO specialists.

The industry will also discuss, possibly in formal session, assuredly in informal sessions, what impact the Kennedy administration will have upon the U.S. trade deficit. One industry spokesman told PULP & PAPER that there "has been quite a change of heart by the industry toward the new administration – especially after the inaugural address." Says he, "It is evident that President Kennedy will not let the U.S. be pushed around."

A salute to Writing Paper

Mfrs. Assn. on its 100th anniversary will be a special feature of the APPA annual dinner, which marks the official close of Paper Week. The program is being prepared by one of Fred Waring's choral groups.

Merchandising and distributing

problems will be discussed at the 20th annual meeting of the Assn. of Pulp Consumers, Inc. Featured speaker will be Glenn Leach, executive secretary of the National Paper Trade Assn. Reed R. Porter, executive secretary of the Pulp Consumers, will discuss trends and developments affecting world outlook for market pulp. Dr. Kenneth McFarland, educational consultant for General Motors, will be guest speaker at the 13th annual luncheon.

APA to probe into pulpwood problems

NEW YORK—Departing from its traditional Monday night Forest Policy Forum, the American Pulpwood Assn. moves this meeting to Tuesday afternoon. Chairmanned by APA President D. E. Hess, The Glatfelter Pulp Wood Co., the meeting will have as its theme, "The Executive Looks at His Woodlands Organization."

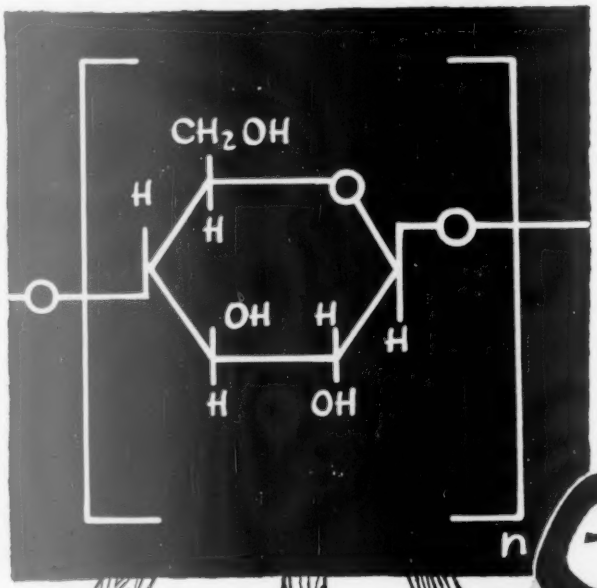
Participating speakers and their subjects are J. R. Kimberly, chairman, Kimberly Clark Corp., "The long range trends of the pulp and paper industry"; T. T. Dunn, vice pres., Union Bag-Camp Paper Corp., "What type of woodland organization will be required to meet future industry demands"; John L. Tower, vice pres., International Paper Co., "What is the relationship of woodlands organizations to corporate public relations"; and J. W. McSwiney, vice pres., The Mead Corp., "What are the long range relationships of pulpwood costs to the rate of return on products produced."

Chairman of the open industry session on pulpwood production will be W. H. MacConnachie, Northwest Paper Co. Speakers will be Arthur W. Greeley, asst. chief, U.S. Forest Service, "Withdrawing of commercial forest lands from timber production for other uses"; Donald D. Stevenson, Buckeye Cellulose Corp., "Forest genetic developments"; Tom N. Baker, St. Regis Paper Co., "A national survey of chip production and utilization –its present and future potential"; and R. R. Edgar, Bowaters Southern Paper Corp., "Stabilization of pulpwood production."

Chairmanning another open industry session on methods and markets in pulpwood production will be A. W. Nelson, Jr., Champion Paper & Fibre Co. Panel members will be C. R. Silversides, Abitibi Power & Paper Co. Ltd.; A. C. Shaw, Champion Paper & Fibre Co. (South America); Dr. Alex J. Panshin, Michigan State University (Russia); and Robert E. O'Connor, American Paper & Pulp Assn. (Asia).

There will be an illustrated lecture on developments in Canadian woodlands research by Dr. Lowell Besley, Pulp & Paper Research Institute of Canada. ■

Professor Pulp ponders a problem...



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Facing the problem of market pulp imbalance

NEW YORK—Faced with unsatisfactory demand for their products and with a recent price reduction, market pulp producers may take more than a casual look at moves just announced by two North American producers.

In one move, Weyerhaeuser Co., through its merger with Hamilton Paper Co., becomes a 290 tpd paper producer. In another move, although not ostensibly affecting its market pulp availability, British Columbia Forest Products Ltd. is adding a newsprint mill at its 500 tpd bleached market pulp mill at Crofton, B.C.

As pointed out many times by pulp leaders, there has been no growth in U.S. requirements of paper type market sulfite and kraft in the past 23 years. Growth has been overseas.

Two growth-retardant factors acting on market pulp, according to one respected industry leader, have been the trend toward vertical integration back to the forest and the revival of the merger trend. Most of the largest pre-war buyers of pulp, he says, are now among the largest producers. And, he adds, many non-integrated paper mills, formerly good customers of established market pulp producers, have been taken over by integrated mills with surplus pulp production, or by mills whose purchase commitments or market pulp loyalties are in a different direction than those of the new affiliate.

At a time such as this, when profit levels are down and production prospects for the immediate future do not appear too good, it may be well to examine again some solutions proposed to this basic problem of market pulp imbalance. The proposer: L. Keville Larson, Weyerhaeuser Co. The time: Paper Week, 1959. The occasion: Annual meeting of the U.S. Pulp Producers Assn.

Said Mr. Larson, "There are two possible ways of resolving a basic problem of this type: (1) Reduce supply; (2) Increase demand.

Pulp supply may be reduced to more realistic levels by a number of legal ways, indicated Mr. Larson.

(1) Some companies might find it feasible to integrate some of their existing market pulp facilities. Practical steps taken in this direction would contribute to a correction of the existing imbalance in pulp markets.

(2) Some integrated companies with only nominal positions in pulp sales could individually elect to withdraw from pulp markets.

(3) Governments, in the administration of foreign aid programs, might begin paying attention to economic as well as political considerations. From the standpoint of world economics, world bank investments in new market pulps facilities at this time do not seem particularly sound.

Pulp demand may be improved in a number of ways, according to Mr. Larson:

(1) Integrated paper producers with high cost captive pulp facilities might find it economically advisable to shut down these facilities and purchase market pulp.

(2) Companies considering expansion could elect to limit their expansion, for the time being, to *paper* facilities, and to rely upon surplus market pulp facilities for any new fiber requirements, at least until such time as corrections in pulp markets justify the further expansion of overall pulp capacity. That this is a practical and economic procedure is evidenced by the fact that a number of highly successful companies regularly ship fiber from Canadian to U.S. affiliates for conversion in separate plant.

(3) Companies selling cuttings, side-runs, and so-called side-runs could elect to review their sales policies and consider their effect both upon pulp markets and upon their own end-product business.

(4) Companies participating in mergers could give consideration to easing the impact of mergers upon established customer relationships and upon current demand patterns in the market pulp segment.

(5) Integrated companies entering specialty markets can exercise patience in their development programs.

(6) Integrated producers can make certain that their sales policies are designed to return a reasonable profit on their investment in captive pulp facilities as well as on their investment in paper facilities.

(7) Also, the non-integrated mills, which group buy approximately 58% of the market pulp purchased in the United States, can help greatly by continuing to support and encourage a stable pulp market. No segment of the paper industry would stand to lose more were pulp markets to revert to the situation that existed in the '30s.

If enough individuals elect to take steps along one or more of these lines, the basic problem of market pulp imbalance could be greatly eased. Failing this, there will be continuing danger that imbalance in the market pulp segment may adversely affect the basic economic health of all segments of the industry, said Mr. Larson. ■

Why West Virginia bought U.S.E.

NEW YORK—"Neither we nor our legal advisors believe that any law has been violated," David L. Luke, president of West Virginia Pulp and Paper Co., told stockholders in his annual report. Referring to the merger of West Virginia with U.S. Envelope last year and the subsequent Federal Trade Commission complaint, Mr. Luke adds, "However, both we and you, our stockholders, must recognize that the Clayton Act has not as yet been clearly interpreted and that it is impossible at this date to evaluate the case."

Mr. Luke also explains that an important consideration in making the investment in United States Envelope was West Virginia's belief that control of an important converter of paper, such as U.S.E., would contribute greatly toward development of a new product—isotropic Clupak paper.

Isotropic papers stretch equally in every direction. Stretch degree is susceptible of control. "It is our opinion," says Mr. Luke, "that this new product gives our company and our industry an opportunity to produce a new type

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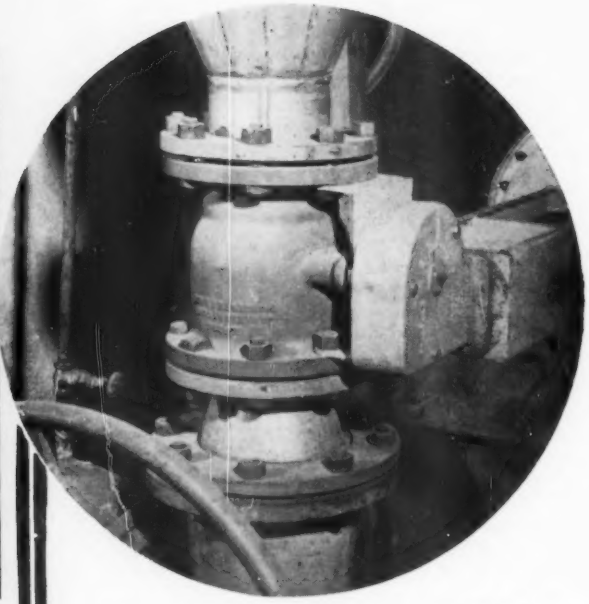
Jamesbury installation at Mead Corporation Chillicothe Plant



Jamesbury installation at Weyerhaeuser Longview Plant

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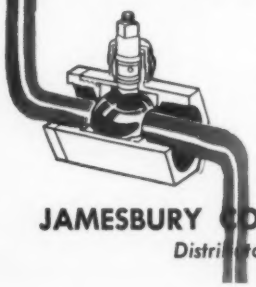

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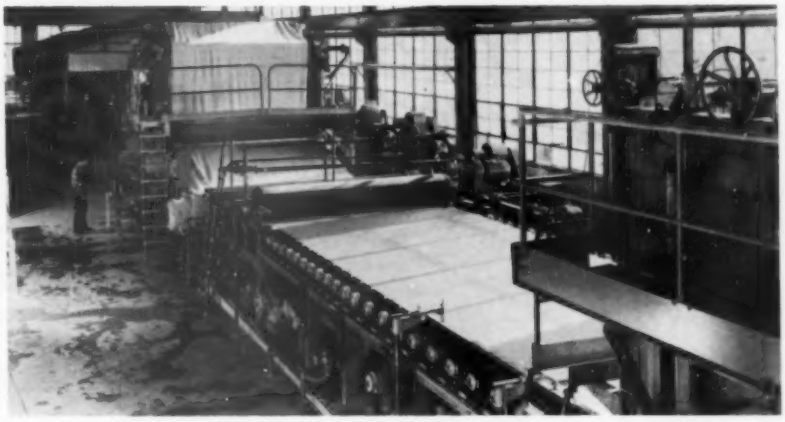
Weyerhaeuser-Hamilton plan merger

TACOMA, WASH.—If shareholders of Hamilton Paper Co. approve, Weyerhaeuser Co. will get its first paper producing facilities. Hamilton, with mills at Miquon, Pa., and Plainwell, Mich., produces bond, offset, text and reproduction papers. It has six Fourdriniers at Miquon with a total capacity of 200 tpd and three machines at Plainwell, with 90 tpd capacity. The Miquon mill added a new fine paper machine, a 126-in. Black - Clawson Fourdrinier, in 1959. Terms of merger: 1 share of Hamilton for nine-tenths share of Weyerhaeuser.

Weyerhaeuser President Norton Clapp says the merger would in no way affect Weyerhaeuser's traditional business as a major supplier of market pulps for paper mills.



ONE OF NINE PAPER MACHINES Weyerhaeuser will acquire in merger with Hamilton Paper Co. This is newest machine, 126-in. wide, installed in 1959.

Mergers Roundup

Lowe Paper Co. has expanded its facilities for producing high gloss clay coatings. Heart of this equipment is a calender built by McKiernan-Terry Corp., Harrison, N.J. The open face calender uses chromium plated, internally heated steel rolls with alternating resilient backing rolls. Development of this process was begun by Lowe many years ago, says a company spokesman, and has enabled the company to maintain its leadership in high quality clay coated products field.

The Eastman Kodak Co. plans to invest $70,000,000 this year for additions, replacements and improvements. Some $34,000,000 will be spent at its Rochester Park facilities, Rochester, N.Y. A new paper machine is believed to be part of this expansion.

St. George Pulp & Paper Co., in New Brunswick, Canada, has been reorganized as a preliminary to getting production underway. The company has been authorized to produce paper as well as pulp, and according to incorporation papers, may lease, purchase, build and operate both pulp and paper mills. Name has been changed to St. George Pulp & Paper Ltd.

The company recently formed Magagaudavic Pulp & Paper Co., which will be amalgamated with the reorganized group. Head office is in St. John, N.B., where Antoine Lacroix has managed the company's affairs.

U.S. Plywood Corp., one of the world's largest plywood producer-distributor organizations, plans to enter pulp-paper. It plans a 500 tpd pulp mill at Gold Beach, on the southern Oregon coast, providing state legislature, now in session, authorizes withdrawal of water from the Rogue river for this purpose. Studies by U.S. Plywood show ample mill residues are available in this area to support such a mill. Although previous efforts to obtain authorization for withdrawing industrial water from this famed fishing stream have met with refusal, several state officials reportedly believe the removal of this amount of water just upstream from head-of-tidewater will not affect fish runs. ■

Golden State's climate welcomes new mills

SAN FRANCISCO—News that 11 pulp and paper companies are considering building mills in California has stirred considerable interest. As yet, none of the 11 companies have been officially identified, but in a list of the industry's top 25 papermakers, some "logical" ones would be included.

California stream control officials have shown that they will be liberal in authorizing mills, providing adequate provisions are made for pollution abatement. Yet, one case has come to the attention of PULP & PAPER where state officials approved the building of a kraft mill, but the townspeople turned it down because of the odor problem.

California lumbermen and state officials are anxious to see better utilization of the state's forest resources

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and wastes for which until now there has been no economic use.

This unprecedented migration of pulp-paper is no surprise to many who have been studying the Golden State's phenomenal population growth. Some call it this century's fastest growing area in North America. California gains a new resident every 55 seconds. California ranked about 13th in paper and paperboard production in 1958 (1,090,312 tons) according to PULP & PAPER's World Review. Its sole paper pulp producer is Fibreboard Paper Products Corp.'s San Joaquin mill at Antioch, which has just boosted its pulp production with the addition of a Kamyr continuous digester. The mill now produces three types of pulp: continuous and batch kraft and NSSC. A third paperboard machine (linerboard) boosts the mill's annual capacity to 200,000,000 tons (see special detailed story beginning on page 45 in this issue).

About 43% of California's land area (100,314,000 acres) is forested. Some 18% is commercial forest land; non-commercial land is about 25%.

B. C. Forest Products to make newsprint

in $25,000,000 mill adjacent to 500 tpd bleached kraft pulp mill

CROFTON, B.C.—A 350 tpd newsprint mill will be constructed here next to the "still-new" market pulp mill of British Columbia Forest Products, Ltd. Explains BCFP's President Charles D. Dickey, Jr., "This is a natural step in company policy of integration and fuller utilization of our timber supply."

The pulp mill was completed two years ago (see PULP & PAPER, May, 1958), at a cost of $47,000,000. The newsprint mill is not expected to decrease market pulp available for sale.

BCFP also operates three large sawmills producing some 260,000,000 board ft. of lumber, plywood and veneer and has an extensive logging organization in coastal British Columbia.

The newsprint mill will be a single-machine operation. Machine supplier has yet to be selected, nor has the engineering firm been decided on. Howard Simons and associates engineered the kraft mill.

When the newsprint project has been completed, BCFP will have invested $75,000,000 in Crofton. Surveys have confirmed the present mill location is ideal for expansion.

"While our studies indicate that present newsprint facilities are adequate for current consumption," said Mr. Dickey, "our forecasts show the demand for newsprint will increase steadily in the next few years to the point where we feel there will be a ready market for our product when the mill starts up."

The decision to proceed with the newsprint mill was reached by directors following the annual meeting in Vancouver, at which M. W. McCutcheon, Q.C. of Toronto, was elected chairman of the board, succeeding E. P. Taylor, who continues on the board and executive committee.

Mr. McCutcheon and Mr. Taylor were instrumental in formation of BCFP in 1946. Mr. McCutcheon is vice president and managing director of the Argus Corp., and chairman of the board, St. Lawrence Corp.

At the annual meeting of shareholders, two new members were elected to the board, H. E. Whitaker, chairman of the board, The Mead Corp. of Dayton, O., and H. T. Mead, vice president of The Mead Corp. Both are directors of Brunswick Pulp & Paper Co., the shares of which are owned equally by Scott Paper Co. and Mead. Brunswick recently acquired Scott's holdings of BCFP shares.

BCFP's annual report shows net sales at an all-time high of $50,944,940, compared with $44,967,112 in 1959. Net earnings for the year were $3,535,044 after providing $4,770,340 for depletion, depreciation and road writeoffs. These are the second highest earnings in the company's history, were exceeded only in 1955.

The Crofton kraft mill operated at full capacity throughout 1960 and completed installation of a new digester and other major equipment in September as part of a continuing program of improvement.

Six Canadian newsprint mills projected

MONTREAL — In addition to the recently announced newsprint mill at British Columbia Forest Product's Crofton, B.C. operation, Canadian producers announced these projects, according to the Newsprint Assn. of Canada:

Alberta West Forest Products Ltd. is reported to have named engineers and builders for a proposed mill near Edmonton. Capacity: 90,000 tons/year.

McMillan, Bloedel and Powell River Ltd. is installing a third newsprint machine at its Port Alberni mill. Production date: 1963. Capacity: 140,000 tons/year.

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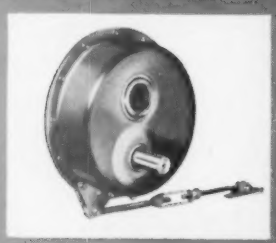

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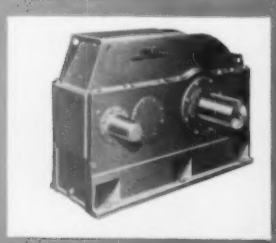

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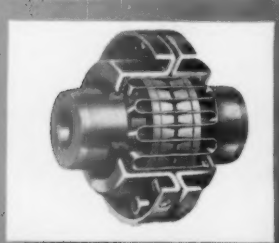

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A POINT TO PONDER...*when you need gear drives or shaft couplings of "FALK OR EQUAL" quality, where but from Falk can you get the "OR EQUAL"?*

opened negotiations with the provincial government to build a $45,000,000 pulp and paper mill in northern Manitoba. Newsprint has been mentioned as a possibility.

Rothesay Paper Corp., supported by the Sogemines organization, will probably have to look elsewhere for a site for its projected $30,000,000 newsprint mill in New Brunswick. It recently lost out to K. C. Irving interests in its bid for 90 acres of mudflat in the St. John harbor. Mr. Irving, who also heads Irving Pulp & Paper Co., was in this instance involved with his Saint John Shipbuilding & Dry Dock Co., which plans substantial expansion. Reports in Montreal indicate this decision could be a major setback for Rothesay, which has spent some $400,000 on design and engineering, although an alternate site is under consideration.

Anglo - Newfoundland Development Co. has until May 1962 to act upon proposed construction of a newsprint mill in the Sioux lookout area.

Gaspesia Sulphite Co., as reported earlier (Jan. 9) in PULP & PAPER will spend some $17,000,000 at its Chandler, Quebec, mill for installation of a newsprint machine, grounded pulping facilities and new buildings. Trimming 248-in., the machine will be designed for 2500 fpm, with rolls balanced for 3,000 fpm.

Seven newsprint mills coming up for U.S.A.

NEW YORK—Six U.S. and one Canadian company are planning newsprint mills in the U.S. Probably the most unusual is Garden State Paper Co.'s mill near Garfield, N.J., now taking shape a few miles from the world's biggest newsprint consumer: New York City. The new mill is expected to start up by January 1962 and is under supervision of Roderick O'Donoghue & Associates. The newsprint machine will be of Rice Barton design and a radically new process for using old newspapers will be used.

Georgia-Pacific Alaska Co. has until July 31 of this year to make a decision on a newsprint mill in Alaska and has until mid-1964 before it puts such a mill into operation.

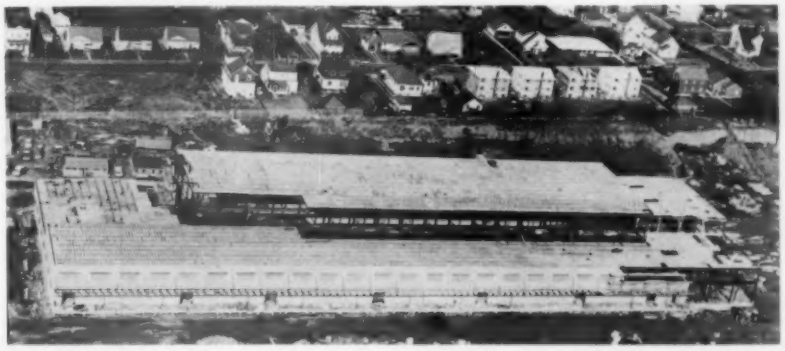
Southwest Forest Industries, Inc. has started construction (Rust Engineering) of its kraft pulp and newsprint mill at Snowflake, Arizona, scheduled for completion this year. Capacity: 75,000 tons/year.

Crown Zellerbach Corp. reportedly is investigating establishment of a 300 tpd newsprint mill near Kremmling, Colorado.

Southern Land Timber and Pulp Corp. has broken ground for its kraft linerboard and newsprint mill in Georgia. The newsprint machine, with a capacity of 100,000 tons/year, will be in production by end of 1963.

Noralyn Paper Mills which made news during last year's Paper Week (PULP & PAPER, April 1960), will soon break ground for its $36,000,000 newsprint and semichemical pulp mill, to be located near Beuche in West Baton Rouge, La. H. K. Ferguson will be responsible for design and construction. Expected to produce 400 tpd of newsprint, the mill is expected to be on stream by the end of 1962.

Anglo-Southern Paper Corp., a wholly-owned subsidiary of Anglo-Canadian Pulp and Paper Mills Ltd. of Canada, is considering building a pulp and newsprint mill near Texarkana in Texas. Since the Gaspesia newsprint project is undertaken by a sister company of Anglo, the status of the Texas project may be changed. However, an Anglo-Canadian spokesman told PULP & PAPER six months ago, that the Texas mill was still under active consideration.



TEN MILES FROM NEW YORK, Garden State Paper Co. is building a 150 tpd newsprint mill with 230-in. wide Rice Barton machine, using deinked newsprint.

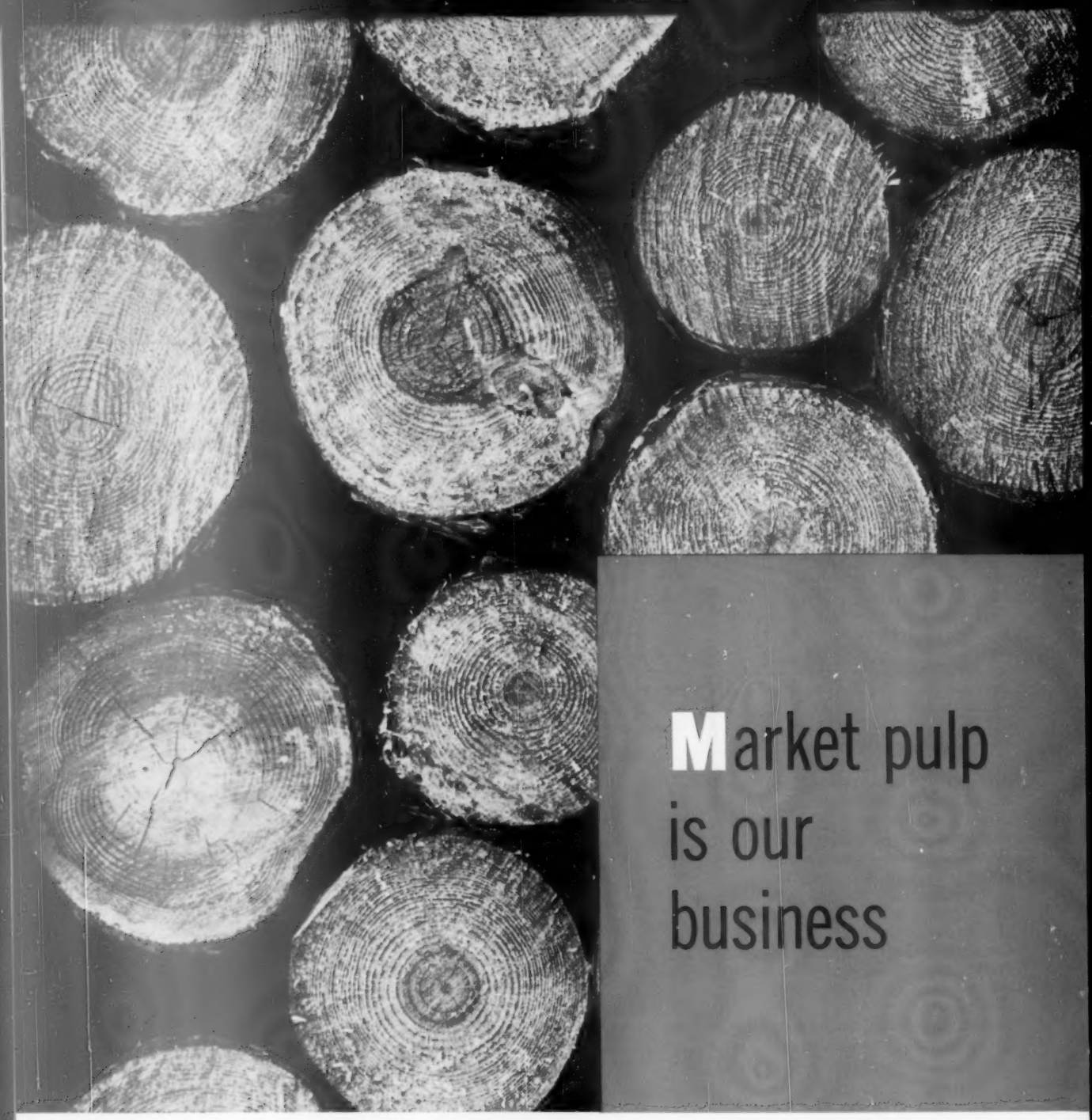
Expansion Round-up

Kennebec River Pulp & Paper Co. has an option to buy **Scott Paper Co.'s** groundwood pulp mill at Madison, Me. Move was not prompted, says Scott, by recent Federal Trade Commission decision that orders Scott to divest itself of certain properties. The agreement with Kennebec deals exclusively with Scott's Madison mill and water rights connected with it; Scott's pulp and paper mills in Winslow are not involved. If the option is exercised, Kennebec plans to continue mill operations and to integrate them into its existing facility in Madison. The Scott mill is a 100 tpd groundwood mill.

Baltimore Paper Box Co. and **The Chesapeake Corp. of Va.** have jointly announced agreement making it possible for Chesapeake to acquire assets of the Baltimore firm.

Three Western Canadian paper distributor subsidiaries of Crown Zellerbach Canada Ltd. have consolidated under name of Crown Zellerbach Paper Co. Ltd. They are **Clark Paper Ltd.** and **Hudson Paper Co.**, both of Winnipeg, and **Columbia Paper Co. Ltd.**, Vancouver. Change will unify and strengthen CZC's coarse and fine paper merchandising without altering arrangements with suppliers or customers, explains CZC President G. H. Gallaway.

Boise Cascade Corp. is acquiring **Western Stud Mills, Inc.**, which has a modern lumber center at Elgin, Ore., of 100,000 bd. ft. daily. ■



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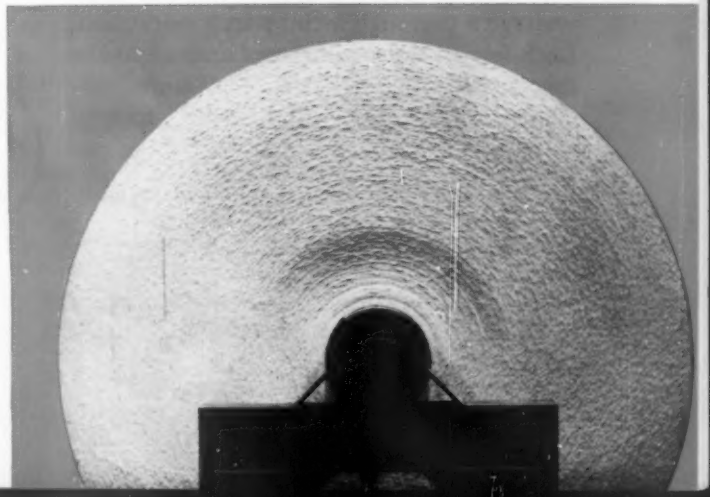

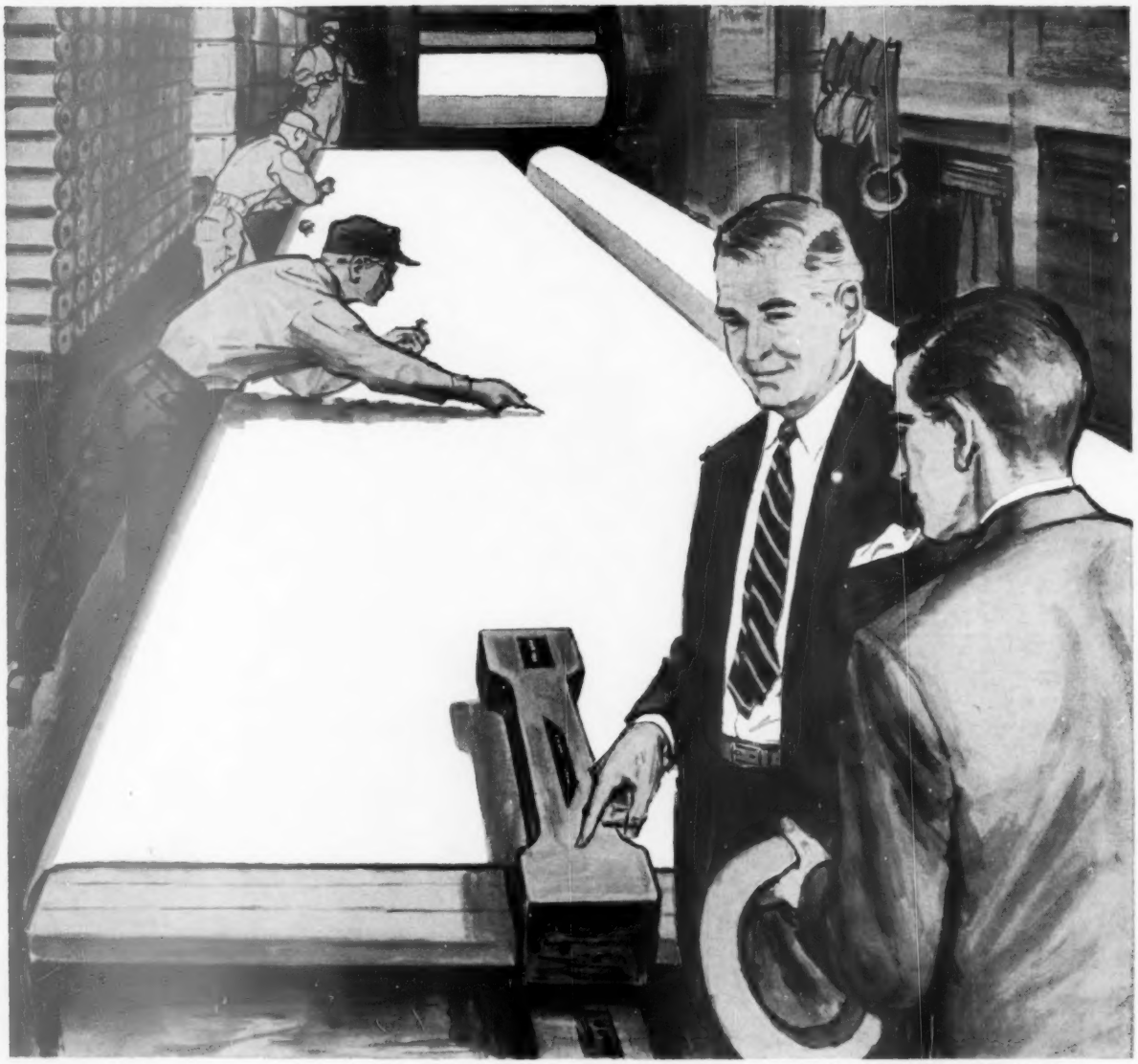

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Europe's "Point of No Return"

is reached as 6-nation Common Market again lowers tariffs

By ALBERT W. WILSON, Editor, PULP & PAPER

ZURICH—Europe's Common Market nations have no intention in this year of 1961 of turning back—even if they could. The facts are they just can't. For this European Economic Community is widely credited with having quickened the pace of European expansion and prosperity. This is especially evident in pulp and paper. It has given fresh impetus to the wave of mergers of Continental companies, especially in France. These are mostly combinations of French companies, maneuvering to positions and arrangements that enable them to be more effective in their larger market. International mergers also continue.

Customs duties were lowered among the six member nations another 10% in January 1961. This makes a total of 30% since January 1959. With a further 10% or 20% lowering of tariffs at the end of this year, no one looks backward any longer.

Worldwide lowering of tariffs and opening of trade ways is the goal of the 32-nation GATT conference now in session in Geneva. It is presently concentrating its attention on the External Common Tariff. American, Canadian, British and Scandinavian delegates, and others, want as many open doors as they can gain into the same Common Market. This will include a lowering of pulp tariffs, I was told recently in Geneva.

Belgium and Italy are favored nations by American and British firms wishing to move into the Common Market. Weyerhaeuser Co., now allied in a plant in Belgium with a local container manufacturer, is one example. Bowaters and Scott Paper were early entries in Belgium, as partners with Papeteries de Belgique, that nation's biggest paper company. Plastics and chemicals companies and one American firm making staplers for fiber boxes are other firms with new plants in Belgium.

Belgium is unique in almost all Europe in having available housing for American and British employes. Tax concessions are reportedly about the best available. The Congo debacle and the loss of Belgian colonies explains this situation to a great extent. Everywhere in Europe labor is extremely short, but not in Belgium.

It is of prime interest that Brussels is the capital of the Common Market. There are hundreds of officials and assistants in this "Little Paris," working out the Common Market problems and its routines. There is a Common Market school for the children of these people from the Six nations, and other foreigners too, and a Common Market Library. Such developments reveal major changes in the life of Europe.

One of the largest American paper companies has followed the lead of Scott by moving into Italy, in this case tying in with a container converter, with a paper mill in mind for later on. Albert E. Reed of England has joined forces with an Italian finance and investment firm, and now it is learned their joint paper mill will be in the vicinity of Rome, with packaging paper conversion.

Principal interest in France is from Bowaters, which now owns two of that nation's biggest mills, Les Papeteries de la Chapelle, near Rouen (which has a new Beloit 300 ton/day newsprint machine, its fifth machine), and La Cellulose de Strasbourg, near that Rhine city, which makes and sells 60,000 tons a year of bleached and unbleached sulfite, and also alcohol. I visited both these mills recently, and their qualities are high. Bowaters also is building a paper conversion plant at Rheims.

Interesting is the fact that the president of Chapelle is Georges Hereil, who also heads the French firm which builds the famous Caravelle jet. Bowater has sent its Tom Raine, former assistant manager of the big Kemsley newsprint mills of England, to live in France, ostensibly as "assistant to the presidents" of the two French paper companies it owns, and, of course, his management role will be increasingly important.

Kimberly-Clark is the only other foreign paper firm operating in France, in both tissue and cigaret mills, but at least one big American paper company —one of America's Big Six—is awfully close to an important manufacturing link in northern France.

Scandinavia is holding out Why should Scandinavian firms move into the Common Market if the European Free Trade Association (Outer Seven) and the Common Market (Inner Six) are to be joined? Whether some industries like it or not, the probability is that the governments will hold the shotgun for this marriage. It means a united Europe, economically; and in the future, politically and possibly in a parliamentary sense. With a powerful Russia on one side and a powerful America on the other, it makes sense to the statesmen of Europe.

The Scandinavians obviously see the writing on the wall. They will not have to build mills on the Continent, for they will have an open door. One Scandinavian company had definite plans for a mill in France; these plans have been scrapped. Another one had considered a paper mill in Holland, but had not yet put it on blueprints.

What Europe Thinks of Kennedy

I am sure that almost every European I talked with for many months this past year, raised this question, before and after the election. The great majority were for the Boston Irishman, mostly because they generally have been for Democrats, since the aid program for Europe and its inception, particularly, were identified chiefly with that party. The more sophisticated Europeans expected there would be no basic change in foreign policy no matter which candidate won, but there were many who couldn't understand the heated political battle with its fighting words coming over the cables, when the Western world was meeting crisis after crisis with the Communists.

For Europeans, the news from America after the election, Kennedy's cabinet choices and his hopeful inaugural speech were business stimulants. Paper industry leaders in Europe still had a wary eye on the slowdown of U.S.A. business, but Kennedy's promises of fresh efforts for gobal unity and peace cheered the Europeans on in their business expansion—not the least of this being in paper production.

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Tensile Strength, PSI	31,000 Min.	60,000 Min.	70,000 Min.
Yield Strength, PSI	———	45,000* Min.	36,000 Min.
Elongation, % in 2" Gage Length	NIL	15	22
Modulus of Elasticity, PSI	12—20x10⁶	24x10⁶	30x10⁶

*0.2% Offset

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Sweden and Finland expand pulp capacity

The new figures from Stockholm reveal that present plans call for Swedish pulp expansion in the 1961-64 period of 1,500,000 tons, of which about 950,000 tons would be market pulp, mostly chemical grades. This can change. While about 950,000 tons are now assigned to conversion into linerboard and paper, the Swedish producers want to keep the proportion assigned to conversion flexible, to shift with market trends. There was an increase of 200,000 tons in Swedish capacity in 1960, bringing the total capacity on Jan. 1 to 5,600,000 tons, of which 4,200,000 tons were chemical grades and 70,000 semi-chemical.

Sweden now has 3,050,000 million tons chemical pulp capacity for market and this will rise—as planned today—to 3,900,000 million tons in 1964. Groundwood corresponding figures are 630,000 and 680,000. It must be remembered that much of Sweden's 1961 production is already sold.

In Finland, chemical pulp production set a new record of 2,400,000 tons in 1960, an increase of more than 250,000 tons, of which 100,000 were in bleached chemical grades. Bleached grades totalled about 750,000 tons. An expansion program will raise chemical pulp production by 40%.

Two large linerboard mills within a few miles of each other in the far north of Sweden, will start operation this year. Their markets will be primarily in Europe, where converters are hungry for the raw material for fiber boxes. One is Swedish Cellulose Co.'s kraft liner mill at Munksund. The other, at Pitea, government-owned, will be finished later in the year. Both have big Beloit Fourdriniers. Two new liner mills in Finland also aim for the same general outside markets. The expanding newsprint production in these Scandinavian nations will challenge Canada's grip on many overseas markets. But many other nations are, meanwhile, building their own newsprint mills.

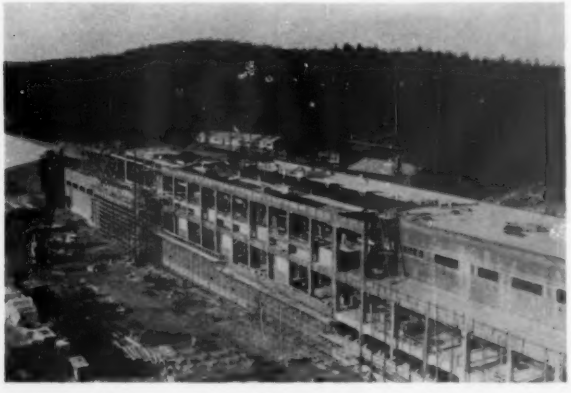
Finland's parliament has reversed its attitude, and now has approved the plan for a Finno-Norwegian kraft pulp and paper mill on the Arctic Ocean at Kirkenes, Norway, close to Russia's border. Wood comes from Finland by a Russian border road and power from Russia. This arrangement has state departments and foreign ministries of the West watching with some concern.

Early in 1961, Finland is expected to join EFTA (the Outer Seven will become Eight). First it was necessary to negotiate an adjustment of the most-favored nation trade agreement between Finland and Russia and this has been done. When Finland joins EFTA, it will have certain privileges for imports from Russia, and EFTA must accept certain privileges which Finland would grant to Russia.

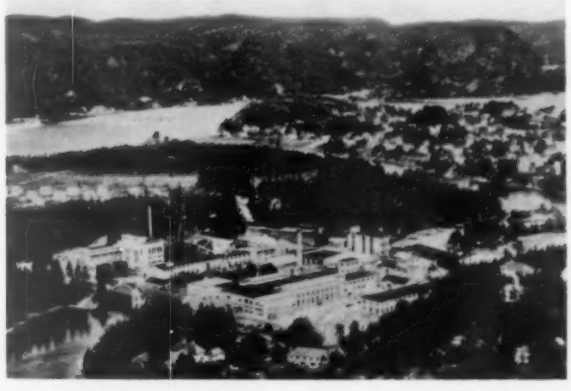
Important in Finno-Russ deal is agreement by Russia to lease to Finland for 50 years a part of Saimaa Canal, lying in territory ceded to Russia after its war with Finland. Russia would also supply timber from its side of the border and this would make possible the construction of a new sawmill or expansion of present facilities by Enso Gutzeit company in North Karelia.

One of the latest Swedish developments is startup of No. 5 machine, capacity 40,000 tons, with coating, at the Wärgon paper mill on Lake Vänern, Sweden. In Finland, Tampella Works, a huge company making paper, machinery, etc., is starting up its new 228-inch board machine at Heinola. Built by Tampella, this machine will make 100,000 tons a year of corrugating material for world markets. The mill was created in the midst of a vast birchwood forest. Enso Gutzeit carries on almost continuous expansion in various mills, adding a semi-chemical mill and another Beloit board machine at Kaakopaa.

Interesting development in Norway is the successful introduction of the magnesium bisulfite process with chemicals recovery at Hunsfos Fabbriker sulfite pulp and paper mill near Kristiansand. Another MgO mill with Babcock & Wilcox boiler and recovery equipment is being built in south Sweden. Austria and Germany are showing keen interest in MgO systems, such as those employed by Weyerhaeuser and Ketchikan Pulp Co. in the Far West. Hunsfos found its spruce resources in shorter and shorter supply, and to reduce dependence on imported wood and to enable it to use pine, it went to the MgO system. About 10,000 cubic meters of pine was used last year (70 to 80 year old) and 50,000 cubic meters will be used in 1961. Gradually Hunsfos will be wholly on pine and hardwoods. A stainless clad Canzler digester is being added to one ceramic lined and two carbonic lined digesters. Hunsfos reports happily that its MgO pulp gives a strong sheet with good formation, of better quality than previously. But unexpectedly, they said, MgO pulp contains more shives and fiber bundles than calcium pulp. ■



IN FINLAND, Tampella Works has built this big board mill at Heinola to make semi-chemical fluting medium.



IN NORWAY, use of MgO process at Hunsfos Fabrikker mill increased wood supply, improved pulp quality.

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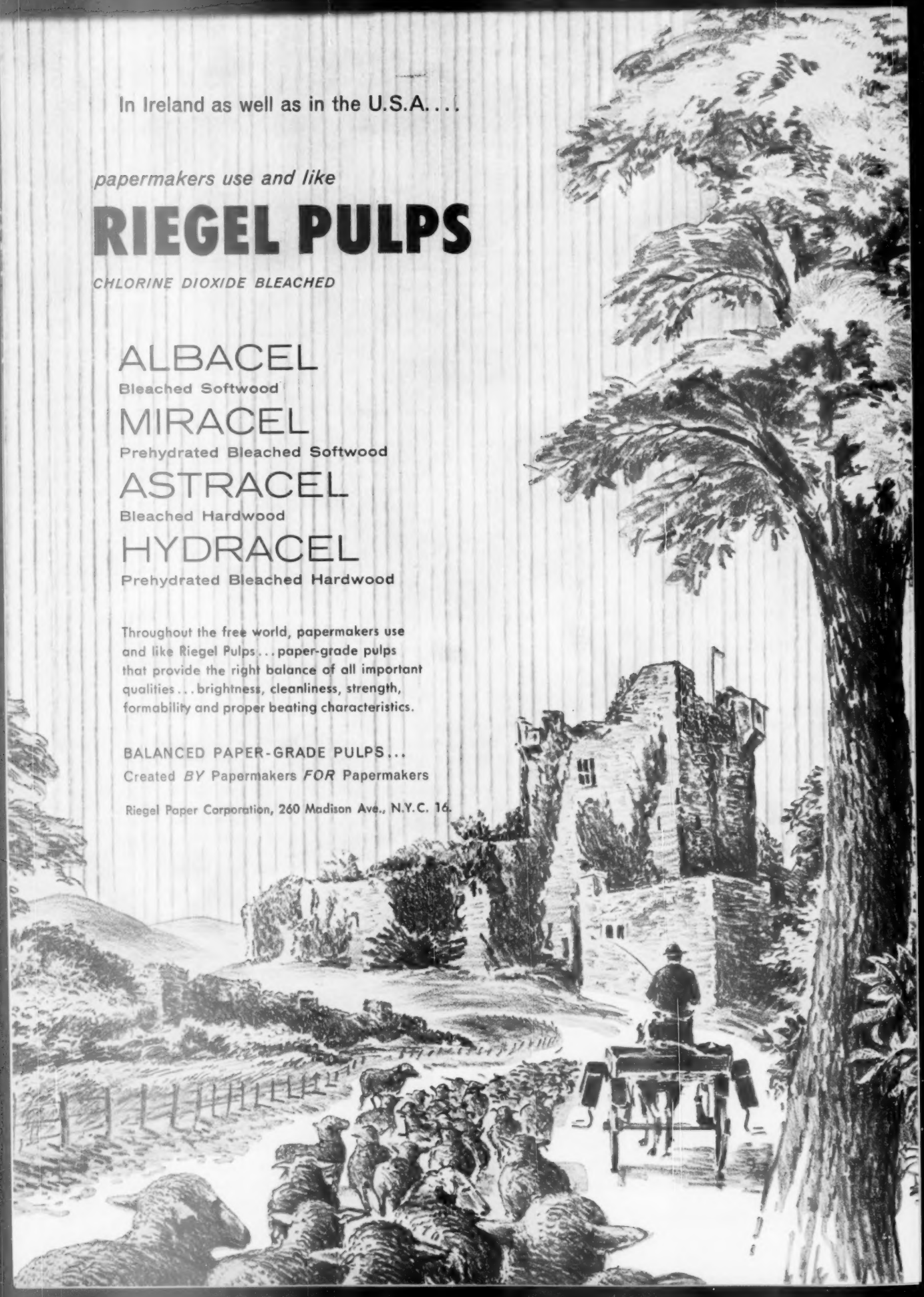

Chidester awarded 1961 TAPPI Gold Medal

MADISON, WIS.—G. H. Chidester, chief of the U.S. Division of Pulp and Paper, U.S. Forest Products Laboratory here at Madison, has been unanimously selected to receive the coveted 1961 TAPPI Medal by the executive committee of TAPPI. Actual presentation will be during the annual banquet during Paper Week.

Probably Mr. Chidester's fame rests most on his pioneering work in semichemical pulping, where he laid the foundation for many breakthroughs by the industry in the use of hardwoods, first for 9-pt. corrugating medium, then for fine papers.

After graduating from the U. of Michigan, Mr. Chidester joined Kimberly-Clark Corp., where he became asst. pulp mill supt. He later joined the Paper Industry as an editor. He joined the technical staff of the Forest Products Laboratory in 1925. He has been a participant in a great many of the basic research developments which have marked progress for pulp and paper. (See The Last Word for details on Mr. Chidester's accomplishments.)

Chidester

Dr. Aiken joins Union Bag-Camp

Aiken

NEW YORK—Dr. William H. Aiken will join Union Bag-Camp Paper Corp. on Feb. 15 as director of research and development. A graduate of Texas A&M College with a b.s. degree in chemical engineering, Dr. Aiken's background also includes an m.s. and ph.d. from the Institute of Paper Chemistry.

Most recently he was director and vice president, research and development engineering, Personal Products Corp. Before that he directed research and development for Gardner Board and Carton Co.

Dr. Aiken will long be remembered for his survey of paperboard coating trends, which he delivered at the 10th TAPPI Coating Conference in Boston. Many conferees called it the "sleeper" of the conference. More recently, he addressed a New York TAPPI meeting on technical personnel in the paper industry, a paper which is being considered for distribution to all TAPPI members.

Dr. Aiken has been nominated to the executive committee of TAPPI.

Bowaters make six major promotions

Dyer

Parson

Wilkerson

Hund

Wilson

Davis

CALHOUN, TENN.—Bowaters Southern Paper Corp. has announced five major promotions at its pulp and paper mill here in East Tennessee. The promotions have already become effective.

John K. Dyer, who joined Bowaters in 1954 as asst. sulfate supt., became sulfate supt. in 1956 and general supt. of sulfate operations a year ago, has become production manager of pulp operations. Walter J. Parson, who came to Bowaters as paper mill supt. in 1954 and was promoted to general supt. of newsprint last January, is now production manager of newsprint.

James A. Wilkerson, a Tennessee native and resident of nearby Athens, Tenn., has been promoted to assistant personnel manager. He began his career with Bowaters in 1955 as woods personnel representative.

Fred Hund, onetime cost accountant at the mill, has been elevated to asst. controller of Bowaters Southern. He had been office manager and chief accountant since 1958. Clarence Wilson, former woods accountant with Bowaters' Hiawassee Land Co., has been promoted to its asst. treasurer.

At Bowaters Engineering and Development, Inc., the Bowaters independent research organization, George C. Davis has been appointed chief engineer. Mr. Davis, a native Georgian and graduate of Georgia Tech, joined BE&D when it was formed in January 1957 as design engineer, moving into the new company from Bowaters Southern, where he had served in a similar capacity since 1955. A former naval officer, Mr. Davis worked for International Paper before Bowaters.

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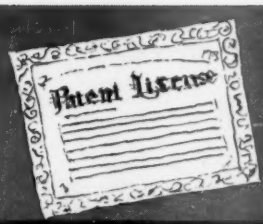

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Becco has lots of patents, granted as a result of innovations in the use of Hydrogen Peroxide and other Peroxygen chemicals developed in Becco's Research Laboratories. But they don't do us a whole lot of good locked tightly in our safe. So, we long ago adopted the following policy:

If one of our patents can help you, we'll be glad to license the rights to you **perpetually,** for just one dollar. You get a nice certificate, incidentally, to cover the legalities, but more important – you also get free our complete engineering help in setting up your process, handling the material, maintenance, etc., etc.

What do we get? You as a **customer** – we hope – but there's no obligation on your part. Just seems to work out that way, though – when we know enough about a particular peroxygen to hold a patent on its use, chances are we've also learned enough to produce it purer than anyone else. You benefit from this; we do, too.

Use the coupon below to ask for a Sales Engineer – or our list of patents – that may help you solve an important problem.

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- ☐ Peroxygen Chemicals
- ☐ Persulfate Chemicals
- ☐ Please have a Sales Engineer call.

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- **No. 64 — Development Studies on Last-Stage H_2O_2 Bleaching of Alkaline Pulps.**
- **No. 65 — Peroxide Bleaching of Southern Pulps.**
- **No. 66 — Becco Laboratory Procedures for Pulp Bleaching, 1955 Ed.**
- **No. 91 — Peroxide Bleaching of Chemi-Mechanical Hardwood Pulps.**
- **No. 92 — Peroxide Bleaching of Chemical Pulps.**

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Gentlemen:

Please have a Sales Engineer give me more information on Becco's Cold Caustic Bleach Process.

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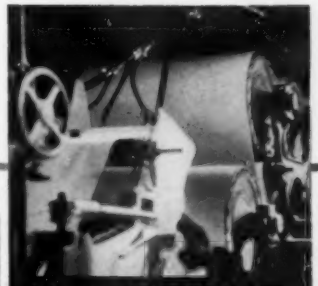

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Trouble is, paper can show an 86 level at the layboy, but by the time the paper is delivered, this has dropped to 82 or lower. With conventional bleaching methods, that is.

Many chemical pulp producers have found the answer to this problem in Becco's Dryer Steep Bleaching Process (patented, but licensed perpetually for one buck). Applied by means of spray pipes across the pulp sheet ahead of the dryers, Becco Hydrogen Peroxide increases brightness permanence and bleaches in transit. Often, in fact, an 86 layboy level **improves** to 88 by delivery time.

This is just one example. Becco has a vast amount of technical knowledge compiled from 31 years of experience with all types of pulp. If you'd like help with your pulp, free of any obligation, let us know with the coupon below.

BECCO fmc

BECCO CHEMICAL DIVISION, FMC
161 East 42nd Street
New York 17, New York

Dept. PP-C

Gentlemen:

We would like help with our pulp. Please have a Becco Sales Engineer call.

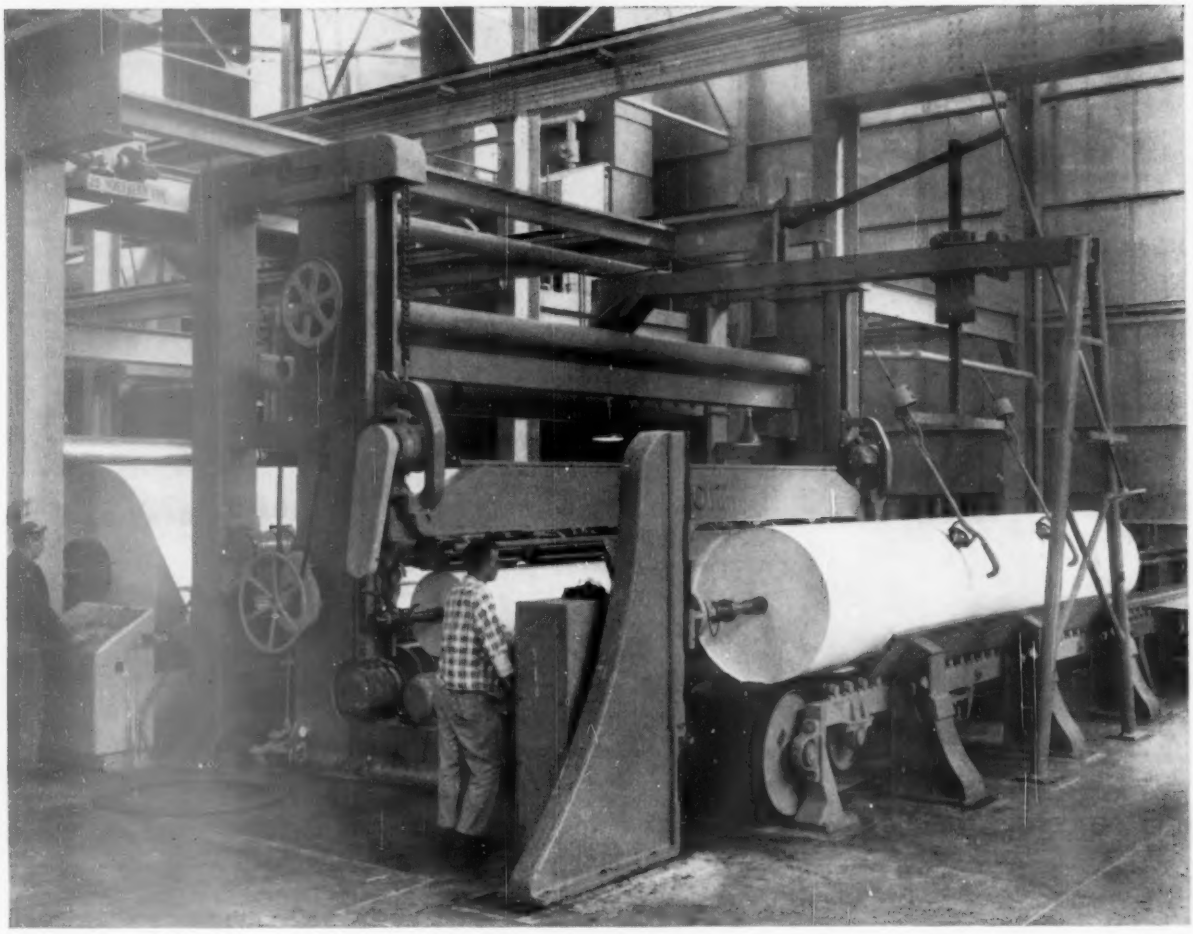
NAME_____

FIRM_____

ADDRESS_____

CITY_____

ZONE____ STATE_____



S. K. CHRISTENSEN

Bowaters Southern Paper Corporation No. 4 Machine Winder—Design Speed 6000 FPM

Beloit Model "L-24" Newsprint Winder

If a new winder is included in your future planning, take advantage of Beloit Eastern's many years' experience in building high-speed winders to meet the most exacting mill requirements. No matter what the size, speed, or trim, one of Beloit Eastern Corporation's family of winders will do the job. These winders provide an excellence of winding unsurpassed in the paper industry. Practical mill experience and fine craftsmanship integrate winder, tension control, slitting, drive and roll and shaft handling into a single system with unit responsibility. Look to Beloit Eastern Corporation for the finest in finished product processing equipment.

FINISHED PRODUCT PROCESSING EQUIPMENT

Winders • Reclaim Winders • Cutters Slitters • Supercalenders • Roll Wrappers • Roll Lowering Tables Roll and Shaft Handling Equipment Conveyors • Unwind Stands and Tru-Tension Controls • and other equipment for the paper and allied industries.

BELOIT EASTERN PAPER MACHINERY DOWNINGTOWN, PENN.

BELOIT EASTERN CORPORATION

DOWNINGTOWN, PENNSYLVANIA

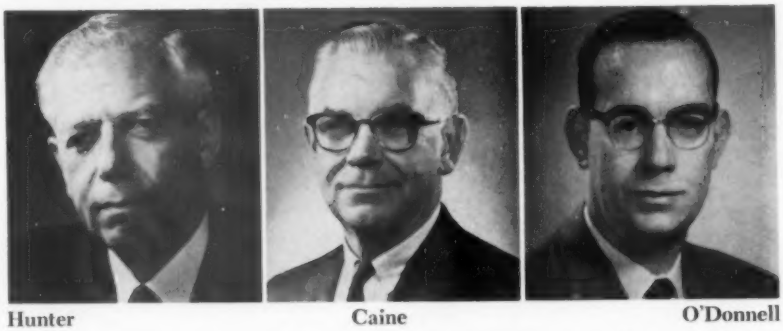
Member Beloit Group

KVP Sutherland elects three executive v.p's.

KALAMAZOO, MICH.—At its first annual meeting, directors of KVP Sutherland Paper Co. elected the following: E. Norval Hunter, senior executive vice president, and Robert D. Caine and Hubert R. O'Donnell, as executive vice presidents.

Mr. Hunter joined KVP in 1944 as asst. to the president with responsibility for rehabilitation of The KVP Co., Ltd. pulp mill at Espanola, Ont. When the KVP Co. and The Sutherland Paper Co. were merged in January, 1960, he was made first vice pres. with continued responsibility for Canadian operations. Mr. Hunter is also a director of KVP Sutherland.

Mr. Caine joined KVP in 1928 in the Kalamazoo plant's parchment division. At time of the merger he became a vice president with responsibility for manufacturing operations of the KVP division.



Hunter Caine O'Donnell

Mr. O'Donnell has been with KVP since 1953 when he was an administrative assistant in Kalamazoo manufacturing operations. He is a president and director of Fort Orange Paper Co., a vice pres. and director of Superior Match Co. and Monarch Match Co., subsidiary companies of KVP Sutherland.

Strathmore promotes five

WEST SPRINGFIELD, MASS.—Peter G. Volanakis has been promoted from mgr., technical sales, to administrative asst. to President Henry D. Johnston, Strathmore Paper Co. Charles E. Benoit moves from supt. of the Woronoco mills to asst. to the vice president i/c production.

Other Strathmore promotions: Robert B. Clark Jr. becomes general sales mgr., continues to report to Harry E. Riggs, vice pres. i/c sales. Robert L. Fastie, asst. mgr., technical sales, moves up to manager. John G. Gallup, asst. mgr., production development dept., steps up as manager of product planning and marketing research.

Benoit

Volanakis

Mr. Clark and Mr. Volanakis were recently elected to Strathmore's board of directors (PULP & PAPER, Jan. 23).

STRICTLY PERSONAL . . .

Midwest

W. H. Clifford Retires as K-C Official

Retirement of William H. Clifford as financial consultant and a director of Kimberly-Clark Corp. was announced recently in Neenah, Wis.

A veteran of 40 years with K-C and associated firms, Mr. Clifford began his career in 1920 as auditor for Spruce Falls Power & Paper Co. Ltd. He took charge of the Kimberly-Clark tax dept. in 1926.

Mr. Clifford was named K-C treas. in 1937 and became vice pres. in charge of finance and a member of the executive committee in 1945. In that post he participated in all major expansion projects during the postwar years.

Lloyd E. Williams is now raw materials manager, paper mill division, Container Corp. of America. Formerly a vice pres. of Pioneer Paper Stock Co., a subsidiary of Container Corp., he will now headquarter in Chicago. In his new post he will be responsible for Pioneer's functions as related to CCA's plants.

Two promotions at the Wisconsin Rapids Division of Consolidated Water Power & Paper Co.: **John Kruger,** quality control engineer, technical dept., has been appointed asst. supt. coating dept. He joined the technical staff at the mill in 1957 and is a graduate of the University of Wisconsin with a bs degree in chemistry. **William G. Stake** has been named clerical supervisor, maintenance dept. He has been serving as plant and property clerk.

Dr. S. Paul Malchick recently joined Nalco Chemical Co.'s exploratory research dept. as technical specialist . . .

Thomas C. Catlin becomes mill mgr. at Riverside Paper Corp., Appleton, Wis. He was formerly mill mgr., vice pres. and a director, Gilbert Paper Co., Menasha.

Groff Collett, divisional gen. mgr., announces a name change for the Ahdawagam div. of Consolidated Water Power & Paper Co., Wisconsin Rapids, Wis. It becomes the Paperboard Products div., because the new . . . **turn to p. 78**

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Air Systems
40 YEARS OF
PROGRESS IN
PAPERMAKING

Ross Engineered Air Systems handle process air in all vital mill areas including...

Barkers, chippers, grinder rooms, pulp rooms, digester rooms, washers, screens, bleach plants, jordan and fourdrinier areas, dryer sections, machine rooms, finishing rooms, control and motor generator rooms, power plant and laboratories.

Complete, balanced air systems so important in today's paper production from a single responsibility.

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MEETINGS

. . . February

Chicago TAPPI (Solid Bleached Sulfite as Packaging Medium), Chicago Bar Assn., 29 S. LaSalle St., Chicago—Feb. 7

Southern Pulpwood Conservation Assn. (Annual Meeting), Roosevelt Hotel, New Orleans—Feb. 7-8

Michigan PIMA (personnel training), Harris Hotel, Kalamazoo—Feb. 9

Paper Week: TAPPI, Commodore Hotel; **APPA,** Waldorf Hotel; **APA,** Roosevelt Hotel; New York—Feb. 19-23

American Institute of Chemical Engineers (44th National Meeting), Hotel Roosevelt, New Orleans—Feb. 26-Mar. 1.

. . . March

Annual Short Course for superintendents and operators of water and sewerage systems, Louisiana State U., Baton Rouge, La.—March 15-17

Kalamazoo Valley Section of TAPPI and PIMA (graphic arts), Innmans Restaurant, Kalamazoo—Mar. 16

Folding Paper Box Assn. of America (annual meeting), Drake Hotel, Chicago—Mar. 20-22

. . . April

Kalamazoo Valley Section of TAPPI Innmans Restaurant, Kalamazoo—Apr. 6

New York-Canadian Div. PIMA (spring meeting), Eastman Kodak Co., Rochester, N. Y.—Apr. 21

Michigan PIMA (Ladies night), Harris Hotel, Kalamazoo—Apr. 22

. . . May

TAPPI Coating Conference, Statler Hilton Hotel, Buffalo, N.Y.—May 8-10

Kalamazoo Valley Section of TAPPI Recognition night), Gull Harbor Inn, Kalamazoo—May 25

. . . June

Kalamazoo Valley Section of TAPPI (fun night), Gull Lake Club, Kalamazoo—June 20

. . . September

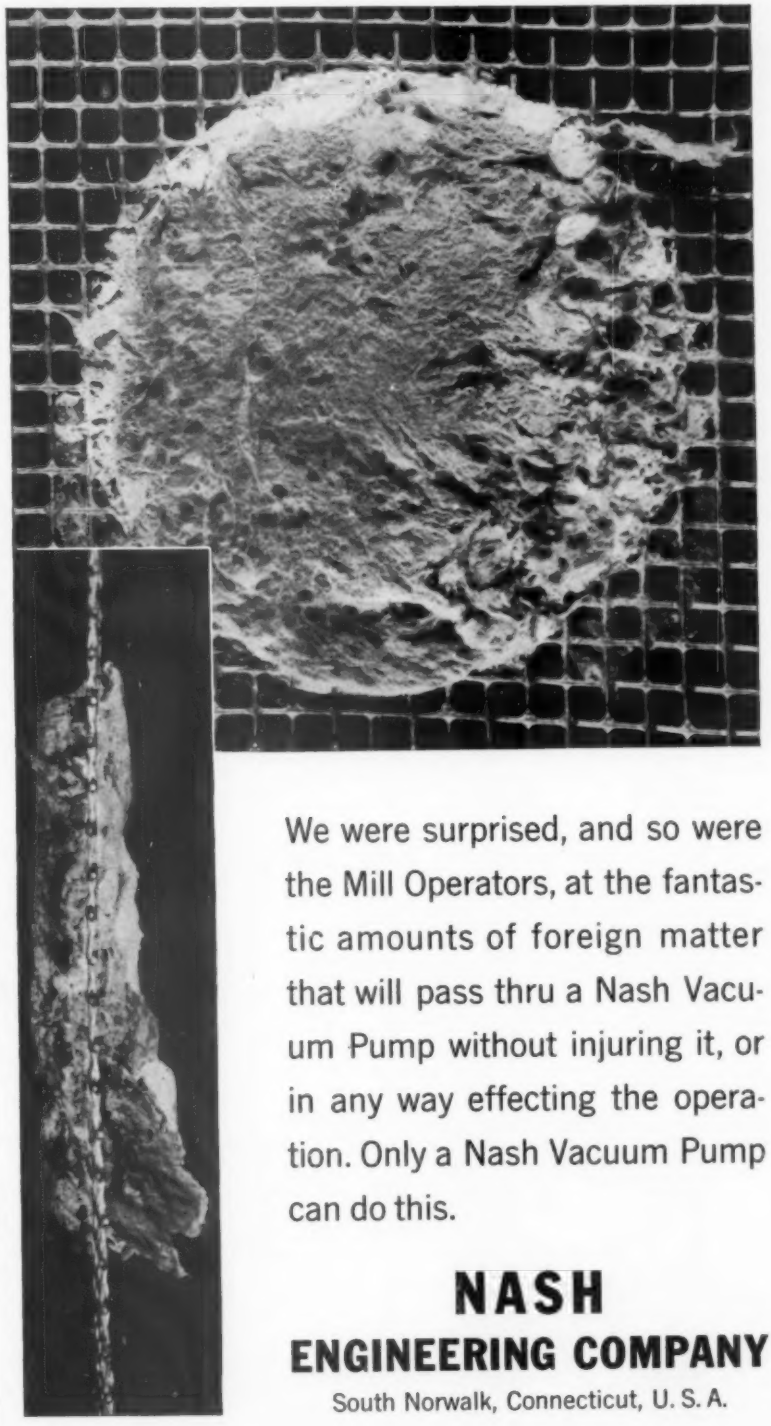
Northwestern Div., PIMA (fall meeting), Faust Hotel, Rockford, Ill.—Sept. 20-22

British Paper and Board Makers Assn., International Fiber Bonding Symposium, Oxford, England—Sept. 25-29

. . . October

Packaging Institute (23rd Annual National Packaging Forum), Biltmore Hotel, New York—Oct. 18-22

We put a screen on the intake of a Nash Paper Mill Vacuum Pump for a few hours . . .



We were surprised, and so were the Mill Operators, at the fantastic amounts of foreign matter that will pass thru a Nash Vacuum Pump without injuring it, or in any way effecting the operation. Only a Nash Vacuum Pump can do this.

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...the uniformly strong, clean, white
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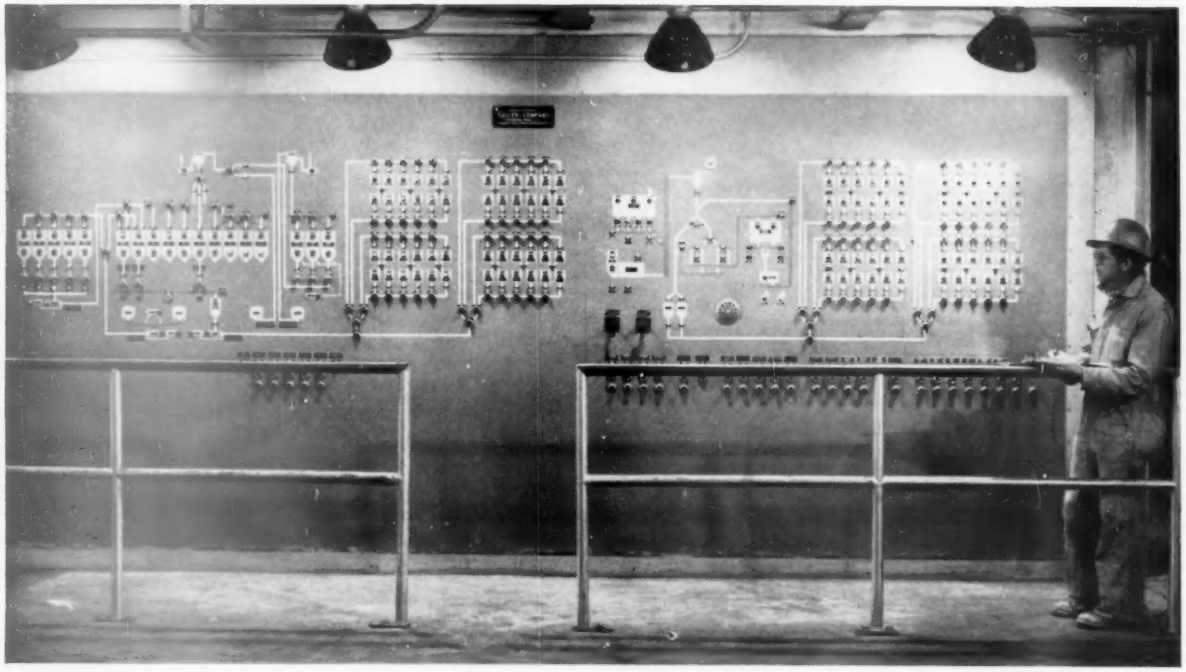
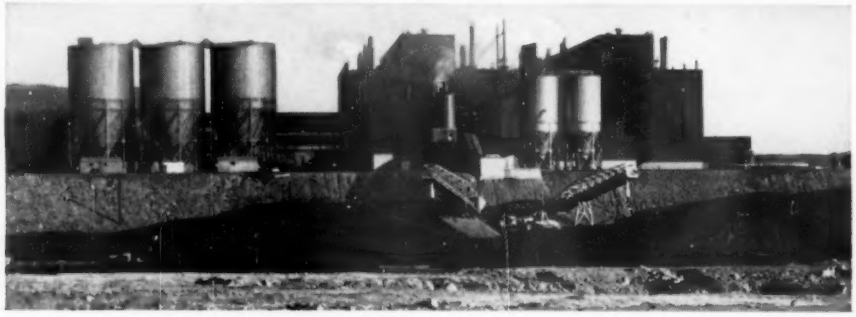
Fuller Control Panels—automatic, remote, one-man control of multiple operations—stem from Fuller's vast materials handling and instrumentation experience. Fuller, the only manufacturer of pneumatic conveying equipment engaged in engineering and building its own control panels, puts its cumulative experience into each project. This single knowledgeable responsibility for both system and control means savings in time and costs. More important—it's your assurance that the total system is generic to your specific operational needs.





Look to Fuller's engineering-manufacturing team to develop the simplest possible control system without costly duplication or changes for you. Write for Bulletin G-9, today.

"See Chemical Engineering Catalog for details and specifications."

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CP-2

CAMERON IMPERIAL WINDER serving with a high speed supercalender at the St. Francisville (La.) mill owned jointly by Crown Zellerbach and Time Inc.

*the finished roll of superb new quality!

It is sometimes expedient to purchase a winder as part of a mill or finishing room "package" installation. Even so, there is no reason to wind up with less than the superb quality of *The New Roll!* A Cameron integrated winding system, job-fitted by Cameron specialists, may be purchased for use with any paper machine of any make, or with any coating or calendering machine. *And that's the only way to get The New Roll!*

In the action photograph above a new Cameron Imperial winding system, integrated from unwind to rewind, (246″ trim width, 72″ rewind capacity) is running at speeds up to 5000 fpm* on 28 to 85 lb. coated book papers. Here are some of the features of this job-fitted Cameron system:

Roll control starts with a Cameron H3PMR continuous duty unwind brake responding to signals from a Cameron cam controlled adjustable automatic tension sensing system. Easy setups with tight starts and firmly set cores are assured by such features as the Cameron hydraulic riding roll lift, and hydraulic down-pressure control. Other features which contribute to superb roll quality are the riding roll driven at both ends for even torque distribution, differential speed rewind drums which play a star role in Cameron automatic roll density control, and the Cameron isolated gear box which drowns main drive vibration. Minimizing downtime and contributing to high productivity are such features as the Cameron automatic shaft injector, the Cameron hydraulic roll lowering table with Cameron automatic shaft puller and core loader, the air-operated Cameron Quick-set shear cut slitters, and the centralized control panel.

We invite you to visit the unique Cameron Research and Development Service at Dover, N. J. See the operation of your own job-fitted "pilot" system, perfectly integrated from unwind to rewind, and engineered by specialists to meet your precise requirements.

*Speed of Cameron Imperial is rated in excess of 8000 fpm depending upon machine width, number of cuts, tension, and characteristics of material.

AA-362

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a team of specialists

54 YEARS devoted to the design and manufacture of slitting, roll winding, unwind and web control equipment.

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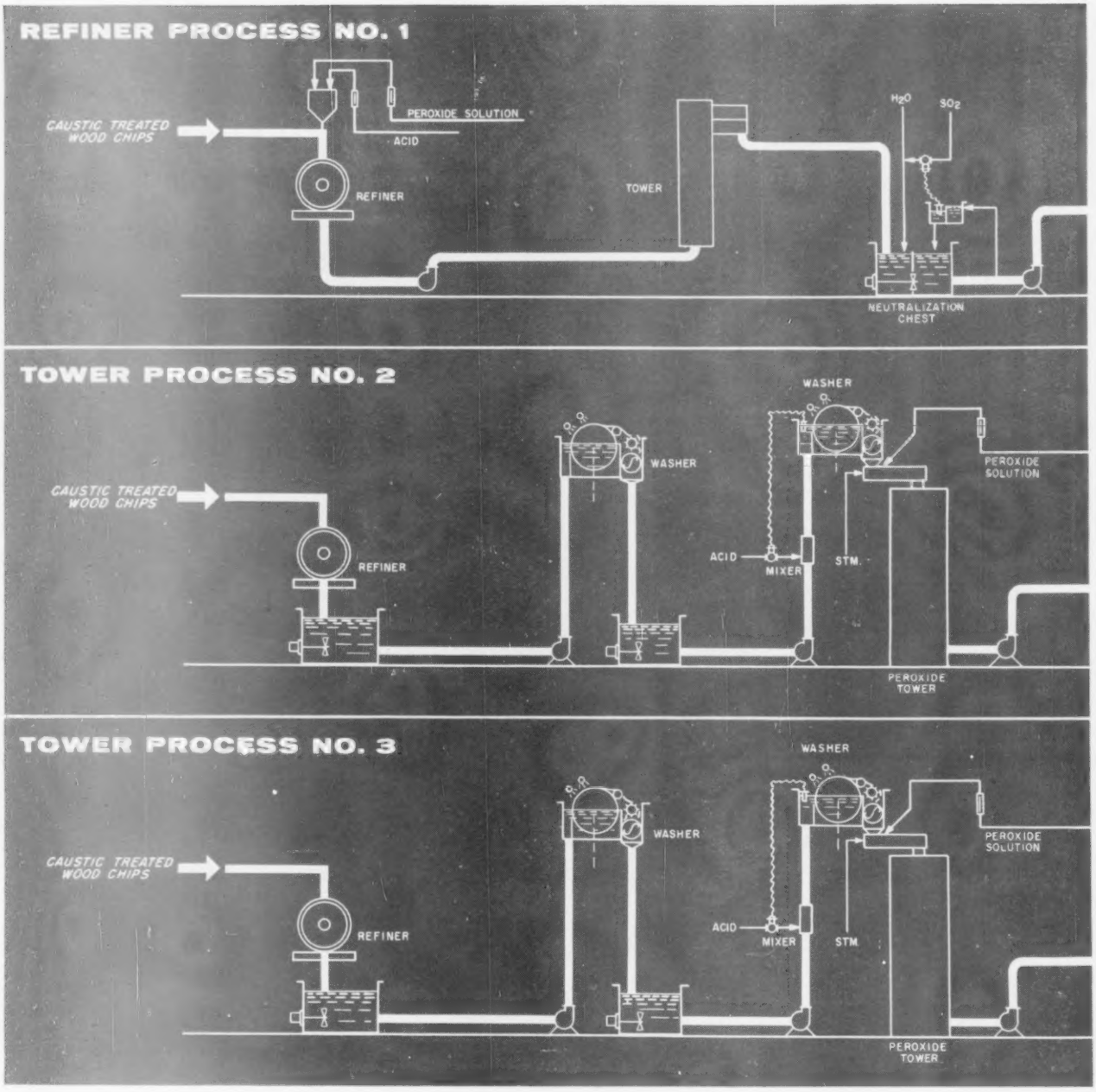
Canada: Cameron Machine Co. of Canada, Ltd., 14 Strachan Ave., Toronto, Ont.
France: Cameron Europe S/A, 5 Rue de Prony, Paris (17e) France
Brazil: Cameron Maquinas Ltda., Rua 24 de Maio, 104-5°, Sao Paulo, Brasil
famous TIDLAND pneumatic shafts are sold exclusively through Cameron



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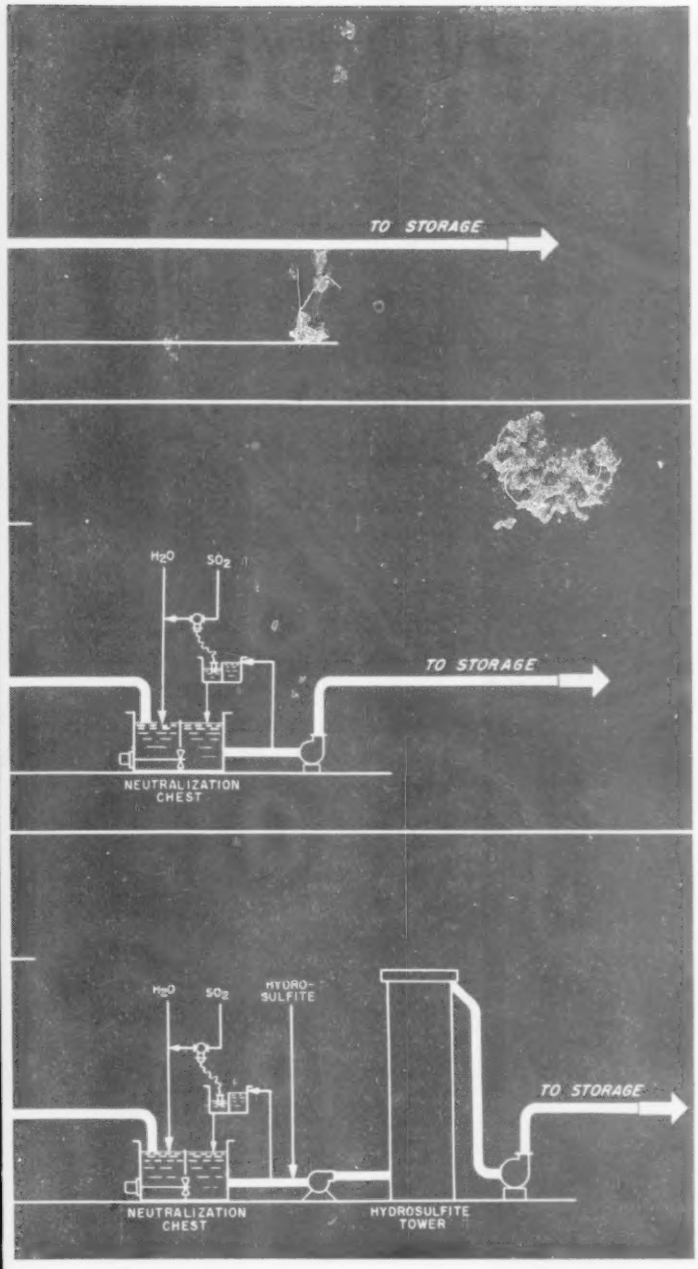

Du Pont experience has helped many mills make the right choice between tower or refiner bleaching for cold caustic pulp based on brightness requirements. For example:

60 brightness. In process No. 1 at left, caustic-treated wood chips enter refiner and are bleached with "Albone" hydrogen peroxide and acid*. The use of acid controls the alkalinity of the bleaching reaction and assures maximum response from the hydrogen peroxide. Sulfur dioxide (SO_2) then neutralizes the bleached pulp and stabilizes the brightness obtained in the refiner. **Du Pont Patent Pending.*

65 to 75 brightness. In process No. 2 at left, pulp is refined, washed to remove caustic solubles, acidified with sulfuric acid to remove acid solubles, washed, and bleached in a conventional peroxide tower to desired brightness in the 65 to 75 range.

70 to 80 brightness. In process No. 3 at left, pulp goes through the same steps as in process No. 2. Then pulp is neutralized, and bleaching is completed in a hydrosulfite tower for maximum brightness in the 70 to 80 range.

Electrochemicals Department, Perozygen Products Division
Wilmington 98, Delaware

ALBONE® hydrogen peroxide — DU PONT REG. U.S. PAT. OFF. — **SOLOZONE®** sodium peroxide

BETTER THINGS FOR BETTER LIVING...*THROUGH CHEMISTRY*

bleaching cold caustic pulp? Du Pont choice between tower or refiner bleaching investment and chemical costs.

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P. E. Kiefer, Portland, Oregon—CApital 7-1281

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C. R. Lombard, New York, N. Y.—LOngacre 3-6440

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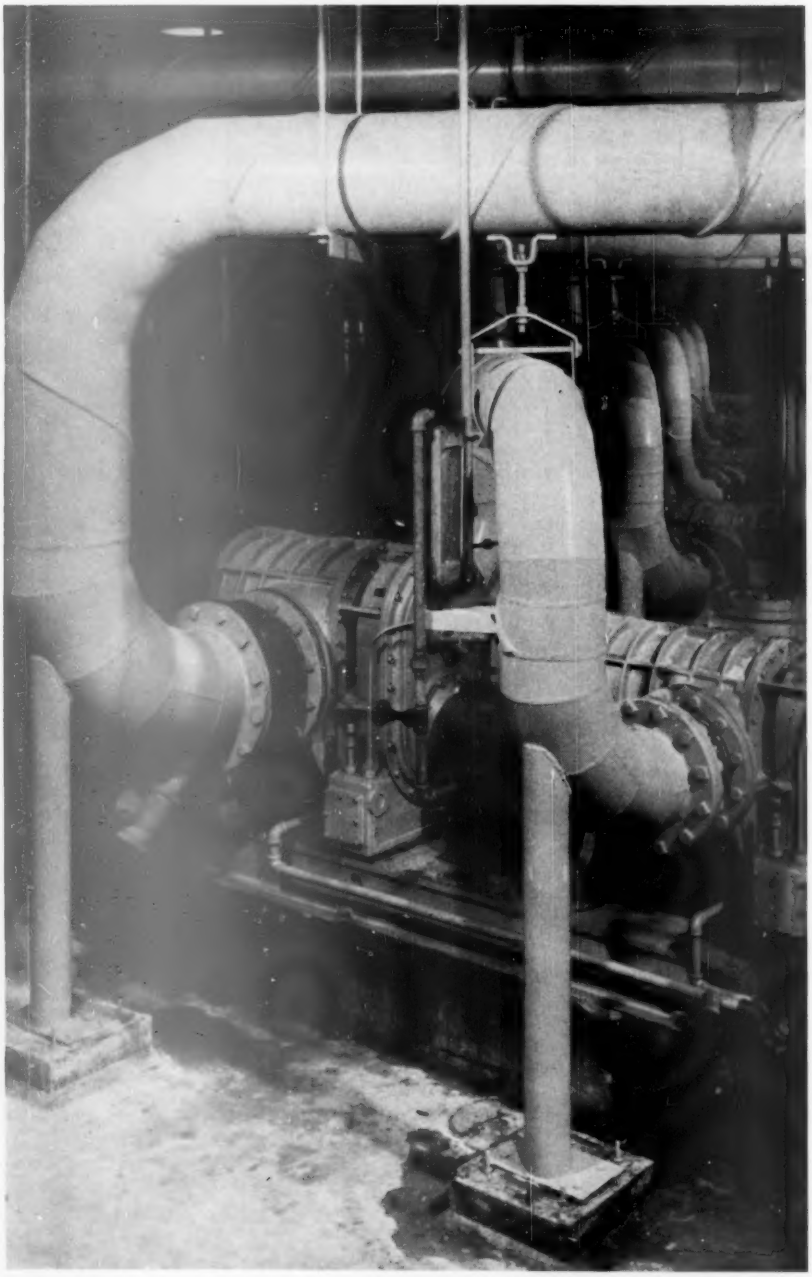
R. W. Hammond, Charlotte, N. C.—FRanklin 5-5561

Or call: N. J. Stalter, Wilmington, Delaware—PRospect 4-4698

PIPE FABRICATIONS BY NAYLOR



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You can depend on NAYLOR fabrication service to meet your most exacting specifications for pipe, fittings and special fabrications—from carbon steel, stainless steel or alloys.

Pipe sizes range from 4″ to 30″ in diameter and wall thicknesses from 14 to 8 gauge. Special piping fabrications from 3″ to 44″ in diameter and wall thickness up to ⅜″. Standard fittings are available from stock.

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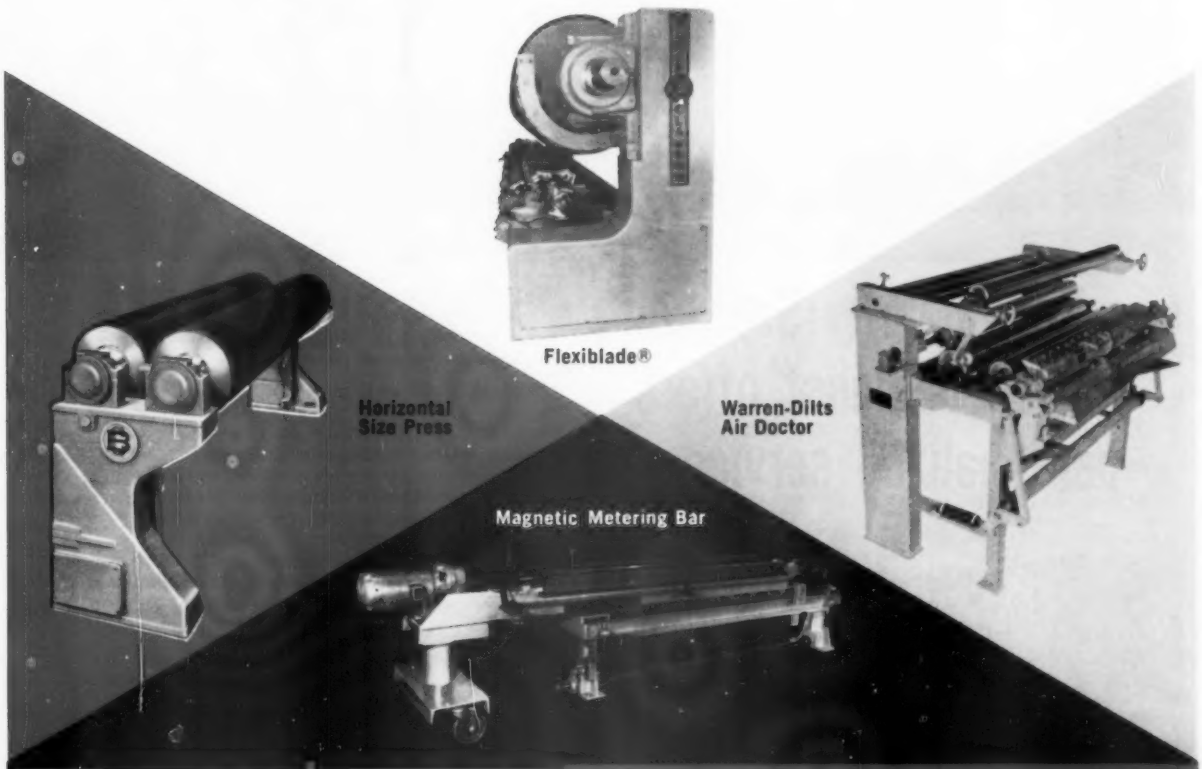
When considering clay coating equipment, deal with the machinery builder who has the experience and ability to intelligently analyze your specific problem and impartially recommend the proper equipment to best do the job.

Black-Clawson offers the experience gained from engineering and building a complete line of clay coaters designed to meet practically any application, on or off the paper machine . . . the experience gained from scores of installations in operation on a wide variety of grades.

When considering clay coating equipment, talk to Black-Clawson's Dilts Division at Fulton, New York. Write for Bulletin 27-DM.



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SONOCO experience is coupled with research, and the result is found in the high quality and dependable service of the cores produced today. SONOCO cores are made to exacting torque and crush strength specifications in a completely integrated manufacturing operation. Quality is rigidly controlled from start to finish. Non-returnable cores; in all sizes. Returnable cores, with or without famous SONOCO metal ends, are made in all standard sizes. SONOCO can also supply a complete line of metal end core machinery and core cutters.

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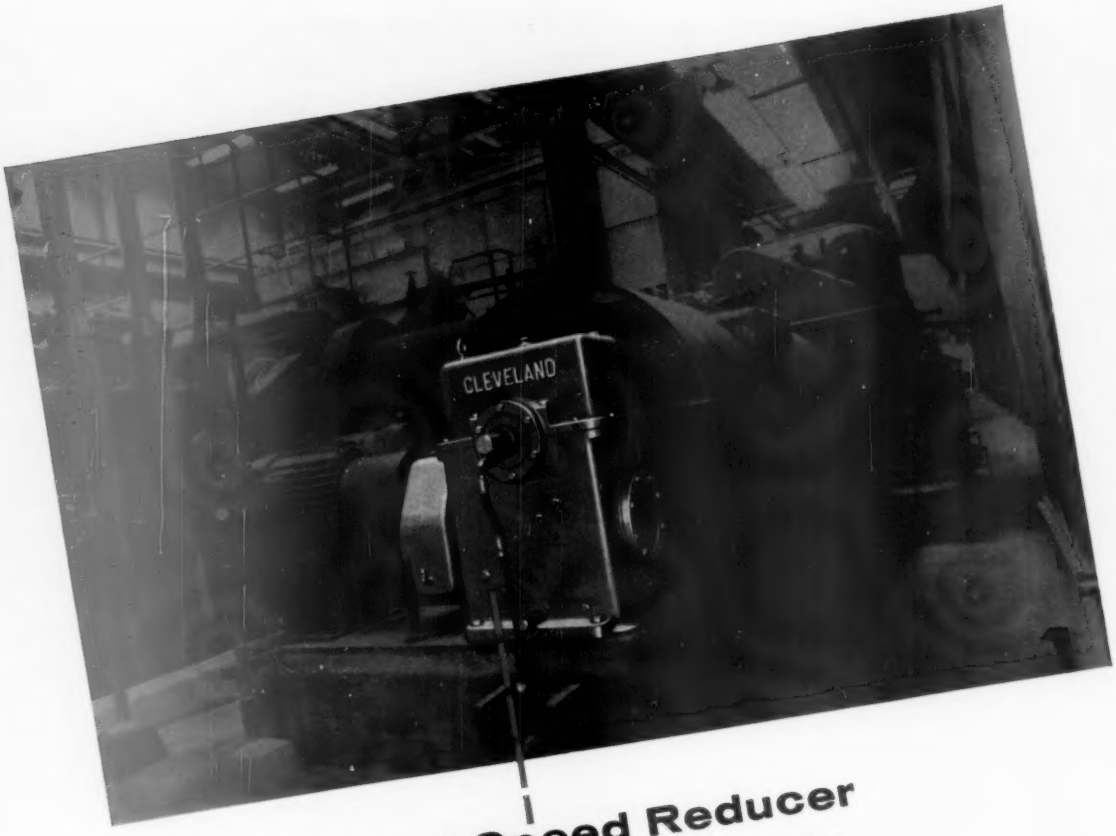

This Cleveland Speed Reducer gives smooth, silent operation in paper-making plant

Paper-making today is an exact science. It requires smooth, highly dependable power transmission to keep product quality at highest levels.

Here is a Cleveland Worm Gear Speed Reducer used on the Rice Barton differential system at Ecusta Paper Division of Olin Mathieson Chemical Corp., Pisgah Forest, North Carolina. According to Ecusta's plant engineers, "This Cleveland Speed Reducer gives us really smooth, silent operation."

In industrial plants all over the world, wherever rugged, compact and dependable speed reducers are needed, you'll find Clevelands handling the toughest assignments. Call your Cleveland Representative today, or write for Bulletin No. 145. Either way you'll get the complete story on how to handle your most demanding power transmission jobs.

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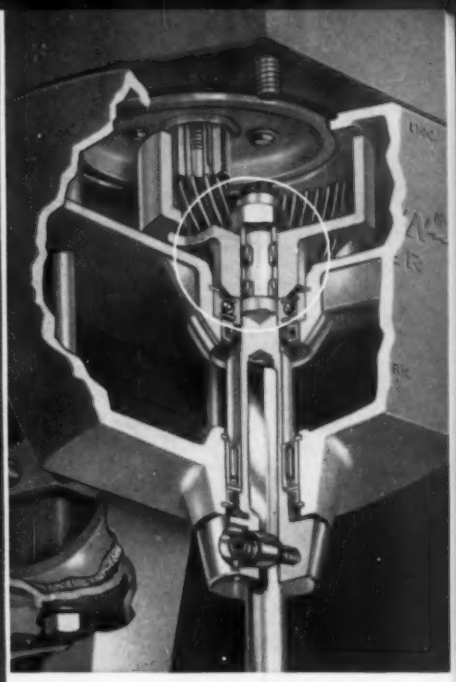
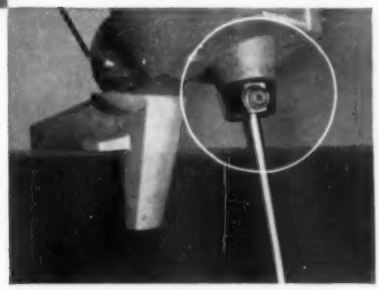


SHOCK OVERLOADS can't damage the mixer drive. In gear-drive models, GripSpring assembly between gear and drive shaft lets gear slip if overloaded more than 50%. It's a safety feature you never could get before in a portable mixer.

NEW MIXER

Get set to topple some traditions in fluid-mixing ease and economy



SAVE COST of a corrosion-resistant alloy with this shaft chuck. It's way up out of the tank—always above liquid level. It's simple, quick-acting. Tighten one screw, and shaft is locked—can't come loose unless you want it to.

You won't have to lubricate it for five years.

Overloads can't hurt the gear drive.

It comes with a chemical plant motor as *standard*, at no extra cost.

You don't need three hands to remove the shaft.

And it mixes fluids like no portable mixer you've ever seen. Delivers up to 45% more fluid flow in gear-drive models . . . higher impeller head in direct-drive models. Actually lets you handle many mixing jobs with a *smaller* mixer drawing *less power.*

That's just a sampling of the new LIGHTNIN Portable Mixer. It has been tested under every conceivable condition of use and load. It's ready—in sizes from ⅛ to 3 hp, gear drive or direct drive. And the price is right.

Your LIGHTNIN Mixer representative will be glad to show you why you can use it to mix fluids better—and at lower cost—than ever before. You'll find him listed in Thomas' Register and in the yellow pages of your telephone directory. Call him today. Or write us for descriptive Bulletin B-520.

NO MYSTERY about the right mixer angle for best mixing. Vertical and horizontal indexing makes it a snap to describe the right setting so everybody understands.

IN FIXED MOUNTINGS, TOO. Get the same all-new advantages in permanent-mounting LIGHTNIN Mixers for open and closed tanks. A complete line, sizes from ¼ to 3 hp. For details on these, send for Bulletin B-521.

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MIXCO fluid mixing specialists

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230 Park Avenue, New York 17, N. Y.

February 6, 1961

PULP & PAPER

FIBREBOARD . . . Expansion

Boosts San Joaquin to 200,000 tons

By LOUIS H. BLACKERBY
Western Editor

Antioch, Calif. EXTREME FLEXIBILITY has been added at the San Joaquin Pulp and Board Mill of Fibreboard Paper Products Corp., here at Antioch. Continuous kraft pulping has been added to kraft batch pulping and sem-chemical pulping. A third paperboard machine adds linerboard to corrugating medium and bleached foodboard.

The new machine boosts the mill's annual capacity by some 72,000 tons to more than 200,000 tons. If demand continues, the machine's production can be doubled following additions to pulping, refining and recovery facilities.

With the new expansion phase completed, Fibreboard can now channel a greater range of products to its six Western container plants. The company's six paperboard mills (two in Washington, four in California) now have a capacity of 1600 tpd.

Spearheading the project was Fibreboard's Central Engineering Division, headed by Robert J. Hallanger. Project engineer was Earl A. Lawver. Working with him were Frank R. Bridgeford, C. R. P. (Dick) Cash, Carl W. Horst, R. L. (Dick) Henderson, A. F. (Al) Tyrill, E. P. (Gene) de Prosse and E. A. (Bert) Collins. R. C. (Bob) Hinshaw was project controller assigned by the Finance Division to the project.

Paul J. Olsen is project manager of No. 3 mill.

Project for No. 3 mill encompassed erecting a new mill and was complicated by the need to circumvent other installations and enlarging and supplementing or replacing some existing facilities to meet expected needs of additional future expansions aimed at an ultimate capacity of 144,000 tons per year.

The San Joaquin mill went into operation in 1949 with two paperboard machines. No. 1 produces corrugating medium and No. 2 produces bleached kraft for milk cartons and food containers.

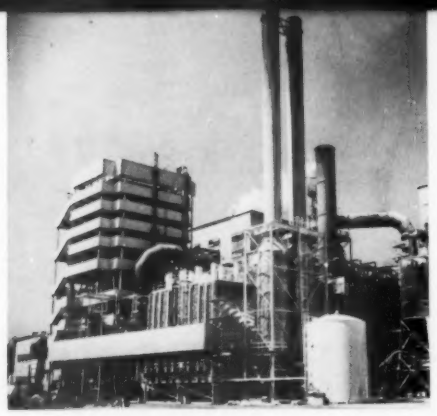
The Bechtel Corp., San Francisco, was awarded the contract to build the mill.

NEW LOOK AT SAN JOAQUIN—at right is new Babcock & Wilcox recovery furnace; power plant is at center.

. . . Fibreboard's San Joaquin Mill

PULPING and RECOVERY

Three types of cooking—NSSC, batch and continuous kraft; mill also licks odor problem



NEW COMPONENTS for No. 3 mill: (l to r) recovery boiler, electrostatic precipitator stacks with scrubbers.

Chips are cooked by three different systems at San Joaquin. An Asplund semichemical pulp system produces pulp for 9-pt. corrugating for No. 1 mill; four 3,800 cu. ft. A. O. Smith stainless lined digesters produce container board pulp for No. 2 mill; and a 250 ton/day Kamyr continuous digester produces stock for No. 3 linerboard machine.

Blended coniferous chips flow by gravity from an overhead hopper to the chip meter and are charged into the 5,700 cu. ft. Kamyr. After 3 to 5 mins. pre-heating in a steaming vessel, the chips are forced through a feeder (by black liquor under high pressure) into the top of the main cooking chamber.

Chips then move down under carefully controlled pressure, temperature and liquor volume conditions. To maintain temperature in the cooking area, liquor is withdrawn through screens in the digester wall, passed through forced circulation heaters outside the digester and then back into the digester. Both temperature and density of the cook are lowered at the bottom of the digester by introducing cold (185° F.) black liquor from the first stage wash liquor tank.

A rotating scraper keeps cooked chips free to move towards a disc strainer outside the digester. Liquor is removed from the pulp and continuously recirculated back to the digester bottom, keeping the pulp moving from the digester bottom to the strainer.

De-liquored pulp is blown through either of two valves to a pressure-type dished-bottom Lundberg designed blowtank with a blade agitator. Here more cold black liquor dilutes the pulp.

One operator controls Kamyr digester operations form a single panel which includes a Foxboro graphic panel with recording and indicating instruments.

Three vertically mounted black liquor heaters are shell-and-tube type, made of ASTM A-285 steel with internals and tubes of 304 stainless. Other heat exchangers used with the continuous digesters are Rosenblad spiral type. Digester pumps are Bingham except for the black liquor compression pumps which were made in Sweden by DeLaval Co.

Hot stock screening improves washing and is a considerable saving in capital investment, says Paul Olsen, project manager. No. 3 mill is one of few U.S. mills using this system.

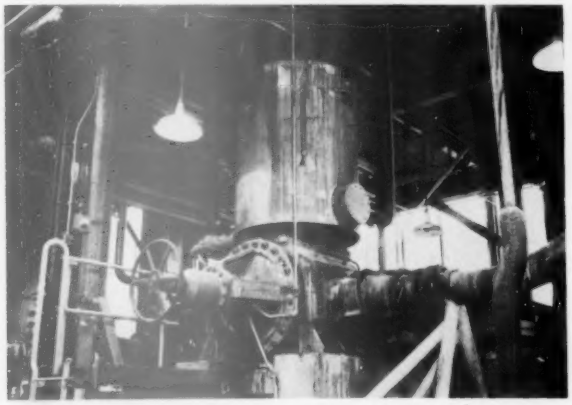
From the blowtank stock goes to an Impco Solvo-Fibrilizer which gives the stock a rough refining action separating the fiber bundles. Mounted outside the blow tank, this unit has isolating valves and is basically a pump with an impeller operating in conjunction with a perforated screen plate.

Partially disintegrated stock, broken down by the impeller and action of the screen plate scrapers, passes through the plate under sufficient pressure to discharge directly to two Impco pressure screens remotely located at higher elevation.

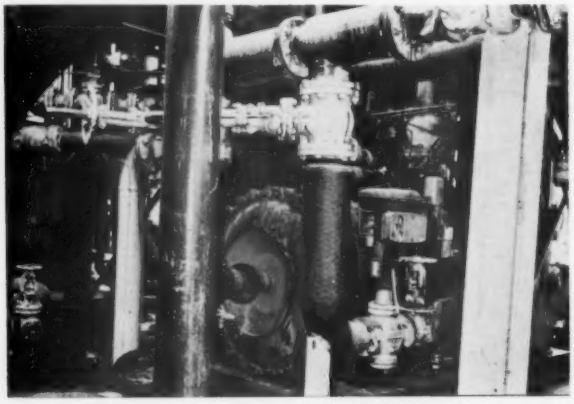
Magnetic flowmeters regulate stock flow to these screens; 60% to No. 1

How various cooking cycles operate . . .

HIGH PRESSURE FEEDER forces chips (using black liquor) into top of Kamyr main cooking chamber.



"COLD" BLACK LIQUOR (185°F) lowers temperature and density of the cook at bottom of digester.



screen; 40% (plus rejects from No. 1) to No. 2 screen. Rejects from No. 2 go to an Impco Vibrooke screen from which accepts return to the blow tank; rejects are conveyed to the Kamyr digester chip bin.

Accepts from No. 1 and No. 2 black-stock screens flow to four Swenson single-stage washers. The last stage discharges by gravity to a concrete tiled high density chest which supports both the washer and screen buildings. This chest has an E. D. Jones agitator and mining nozzles for lowering stock consistency with white water from 12% to a pumpable 5%. Filtrate flows are conventional.

Oxidation of black liquor from the brown stock washers in a Trobeck oxidation plant will greatly reduce the concentration of volatile oxidizable sulfurous compounds, reducing the sulfur losses in black liquor evaporator and ameliorate atmospheric pollution problems. Non-condensable gases from the digesters are collected and burned either in the lime kiln or in a furnace.

The natural circulation sextuple effect black liquor evaporator, designed by Chicago Bridge & Iron Co., is designed to process 185,600 lbs. of black liquor/hour using 24,900 lbs./hour of 50 psig steam. It is furnished with wire mesh entrainment separators and Worthington centrifugal pumps.

By installing an oversize recovery furnace with the latest internal preheat system, steam for No. 3 mill is being provided without a power boiler. This is because of the possible expansion of the mill. A power boiler will be installed when expanded production requires it.

The recently installed recovery furnace can burn 1,245,000 lbs. of black liquor solids/day, producing 197,000 lbs., 600 psig, 715°F. steam/hour at full load. Because full load steam capacity is required for the new mill, fuel oil supplements the black liquor deficiency.

The recovery furnace, designed for 400-ton nominal pulp capacity and operating at 200 ton nominal, was designed and built by Babcock & Wilcox and erected by C. C. Moore & Co., to burn black liquor and heavy fuel oil in combination. About 40% of total steam generation is available from firing oil in the tertiary windbox. The windbox has supplementary air ports and steam atomizing oil burners.

A complete instrumentation and combustion control system was provided by Bailey Meter Co. This includes supplementary oil firing addition to the usual instrumentation for black liquor firing.

Black liquor flows from the strong black liquor storage to the wet bottom double chamber Koppers electrostatic precipitator to the throat of the flue gas duct at its entrance to the cyclone evaporator. Black liquor collects in the cyclone bottom and is pumped into nozzles ahead of the point mentioned above, and also, after passing through strainers, into wall wash nozzles at the top of the cyclone evaporator. A third portion of the flow, which also passes through the strainers, goes into the salt cake pre-mix tank. There, heated black liquor mixes with salt cake and is then pumped to the salt cake mix tank. Two pumps take suction from this tank; one recirculates a stream through the hoppers below the boiler section and back to the tank; the other discharges through black liquor heaters into the oscillating black liquor burner.

The dissolving tank of the new boiler has two Fibreboard mechanical smelt breakers, developed by the company's C. R. P. Cash about eight years ago to prevent explosions in the dissolving tank and prevent unpleasant noisy operations. Two Canadian mills also have installed these devices.

"The new boiler is a complete outdoor installation, similar to our No. 2 recovery furnace which was the first outdoor installation in the industry," says Mr. Cash. "The instrument panel for No. 3 recovery follows the Southern practice of being totally glass enclosed, with controls extending to the outside, minimizing maintenance."

The wet-bottom Koppers electrostatic precipitator of acidproof brick, has a separation efficiency of 99.6%.

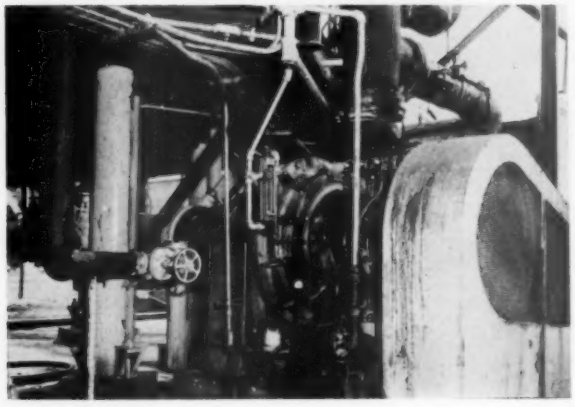
To reduce and eliminate contaminants from the precipitator, two Chemico stack scrubbers were installed. These Pease-Anthony type scrubbers, each with capacity of 78,500 cu. ft. of 280°F. flue gases, are 12 ft. dia. x 42 ft. tall, built of 316 stainless. Recirculated water flow for these scrubbers is about 200 gpm.

The causticizing plant is a standard Dorr-Oliver installation except that no diaphragm pumps are used. Slurries from the clarifiers are handled by Goulds centrifugal mud pumps, remotely controlled by American Blower variable-speed hydraulic couplings.

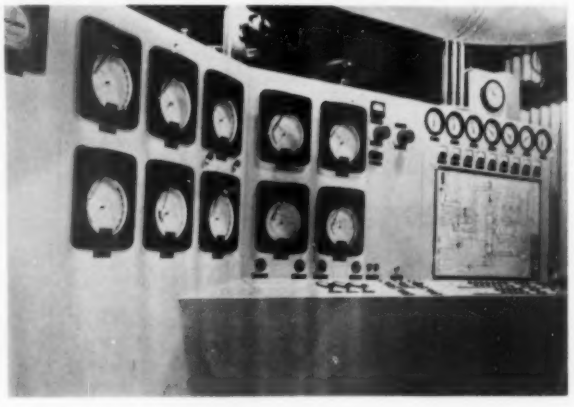
Lime mud feeds to the 9 x 250 ft. Traylor kiln at uniform 65% solids from a Bird continuous centrifugal filter. This outside unit was installed in place of a conventional filter house. The kiln has a Dorr-Oliver hot-lime crusher—such as originally developed by San Joaquin Fibreboard and used on No. 1 kiln for past 8 years.

The new kiln has a venturi scrubber and cyclonic separator, both by Chemical Construction Co.

HOT STOCK REFINING improves washing. Impco Solvo-Fibrilizer refining action separates fiber bundles.



COMPLETE CONTROL of all Kamyr continuous digester operations by one operator from this Foxboro panel.



NEW LINERBOARD MACHINE is housed in this 486-ft. long building.

PAPERBOARD MILL

Features flexible stock preparation, two headboxes on machine, horizontal size press

Stock is transferred to the low density storage tank in the new machine building about 300-ft. from the pulp mill. Consistency controls are Fisher & Porter pipeline regulator units. In these units, the consistency transmitter body is an elevated outlet tee in the stock line. A pneumatic force transmitter is on top of this tee. A shear float with "fingers" in the stock stream senses the forces acting upon it, transmits this to the force transmitter and to the consistency recorder-controller which controls a dilution water valve.

Stock from the low density chest is pumped through two E. D. Jones 42-in. Double-D disc refiners, driven by 800 hp, 514 rpm Westinghouse motors. The refiners are piped to operate in series or parallel, and discharge into primary and secondary machine chests with Jones agitators.

Three Jones Majestic jordans provide final stock preparation. These 400 hp, 400 rpm units have piping arrangements for wide flexibility in selecting hp days/ton for stock to primary and secondary headboxes.

The Black-Clawson Fourdrinier is 172-in. wide and designed to produce 18 to 90 lb. natural kraft linerboard at 250 to 1500 fpm. It is housed in a 490-ft. long building of steel framing and cement asbestos wall panels. Wide separation between pulp mill and machine building provides for expansion.

The permanent-cantilever quick-wire change Fourdrinier takes a 133-ft. wire and is served by two airloaded Valley inlets. There are nine suction boxes, a 28-in. dia. breast roll and a 40-in. dia. suction couch roll.

There is a first suction press and a second air bleed straight through press. Bottom suction rolls are 30-in. dia. by 172-in. drilled face bronze shells without rubber cover. Pneumatic-loaded top press rolls are 28-in. dia. with 1-in. self-skinning covers; press felt conditioners are Vickery; each with three jordan shoes.

There is space for a future smoothing press which would be short-coupled to the beginning of the dryer section. There is also space for a breaker stack between first and second dryer sections.

The 3-section dryer has 54 paper dryers, 60-in. dia. by 170-in. face, 4 felt dryers, all designed for 125 psig, steam pressure and equipped with joints with rotating syphons. Anti-friction heavy duty bearings are lubricated by a pressure-gravity Black-Clawson circulating oil system.

A starch coating is added in the horizontal size press between the second and third dryer sections. Two open calender stacks (8 and 6 rolls), separated by two 60-in. dia. dryers, follow the third dryer section.

The reel is an Auto-Flyte Super 36-in. reel. The two-drum winder is a model 180 Verti-Shear unit. The unwind stand has a Horton air-operated self-compensating brake, designed for 72-in. dia. rolls and a maximum trim of 160 in. Its top speed is 4,500 fpm. A gear-operated roll ejector discharges rewound rolls onto a hydraulically operated roll unloading table.

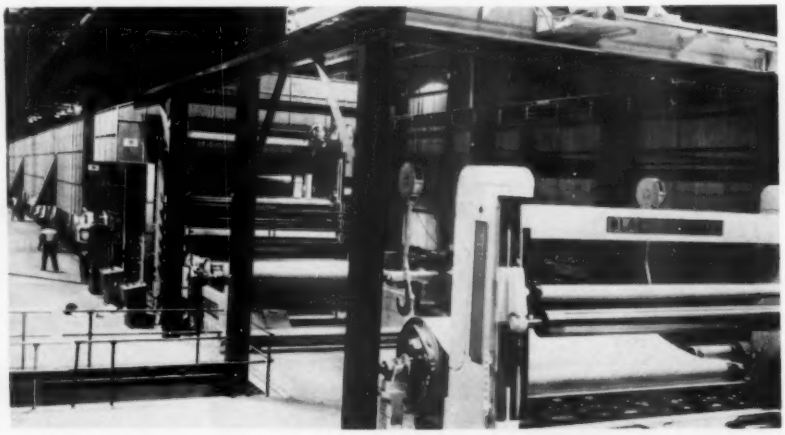
A swing-type power operated shaft puller extracts shafts (4-in. Tidland pneumatic leaf type) from rewound rolls.

From the roll lowering table, rewound rolls are positioned on a floor level belt conveyor, automatically strapped in a Signode machine, weighed by a floor scale and delivered to a lowerator for delivery by lift-trucks to the loading dock.

The paper machine is driven by a variable speed line shaft mounted on the machine-room floor. Extremultus laminated flat-belts are used on individual back drive-stands of the machine sections. Each drive has an air-operated cut-off clutch and an electrically operated belt shift controlled from the front side of the machine. A 1600 hp Westinghouse non-condensing steam turbine drives the line shaft through gear reducers delivering 800 rpm at the double end output shaft. The turbine has 150 psig back pressure providing steam for dryers and the Mason-Neilan condensate system.

The dryer and calender hoods are flat cement-asbestos board made by a Fibreboard division. Fresh air from outside and hot air from the hood is used by the vapor absorption system.

ADDING 72,000 TONS/YEAR to San Joaquin mill of Fibreboard Paper Products Corp. is this 172-in. Black-Clawson paper machine.



Substantial steam savings are achieved by recirculating warm air from the hood.

The broke section handles broke at full machine speed. The system uses a Morden Slush-Maker mounted in a tile chest as wide as the machine. A wide belt conveyor extends from the pulper chest to the last dryer section. Winder trim is pneumatically conveyed to the pulper. Repulped stock is pumped to a 20-ton broke chest or to the primary machine chest.

The broke system was used soon after installation in a way that proved its capabilities. Bleached wet strength broke from No. 2 machine, which does not have wet strength broke facilities, was successfully pulped through the new broke system.

A Roots-Connersville vacuum pump system supplies the new machine. Except for the felt-conditioner vacuum pump, these are all driven by a single 600 hp Westinghouse motor through connected shaft extensions.

Bulk starch is handled by a Corn Products Co. system. Raw starch is pneumatically transferred from rail cars to the outside silo. The silo discharges by a twin screw conveyor to a 25 lb. automatic batch scale, then by gravity to the slurry tank. Water is metered in predetermined volume as the starch is admitted. The slurry is continuously pumped from the slurry mixing tank to an enzyme converter in the basement. Acetic acid is added to the slurry by a Clarkson feeder controlled by an automatic pH controller and recorder.

The Clarkson feeder adds enzyme solution to the starch as needed for controlling conversion. Temperatures in cook, kill and ready tanks are maintained by recorders and controllers operating steam control valves feeding spargers in each tank. A viscometer continuously records viscosity of starch leaving the cook tank. An agitator and temperature indicator-controller at the starch ready tank insures uniformity of starch for the size press.

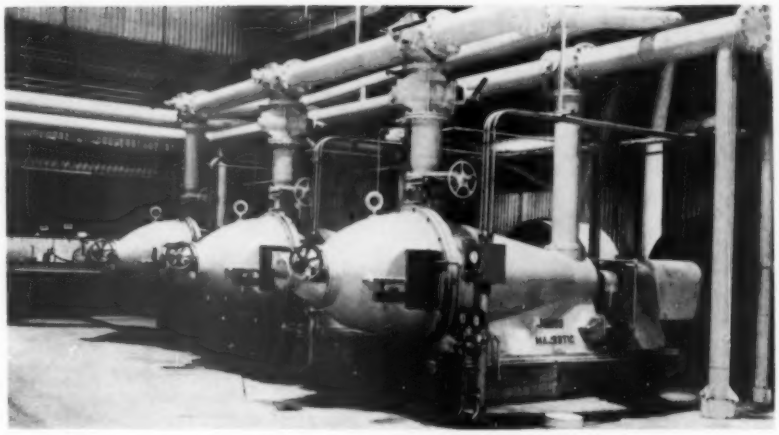
The outside storage area has tank car and truck unloading and storage for other papermaking additives. There are two 8,000 gal. storage tanks for alum and wet strength resin, and a 16,000 gal. tank for rosin paste. A Hercules rosin emulsifier discharges into a 6,000 gal. dilute-size storage tank for distribution to primary and secondary machine chests. Sulfuric acid, for controlling pH, is stored in a 6,000 gal. tank before entering the low density chest.

Water for the new mill is processed in an ion-exchange demineralization plant. According to Mr. Cash, this installation is one of the largest plants of its type. "Our process water must be of very low mineral content to insure end products of highest quality. We have two water sources—the San Joaquin River (which runs by the plantsite) and Contra Costa Canal. This alternate source was secured because the river becomes brackish during summer months due to tidal action and low flow. Because of this condition, the canal was built to give year-around fresh water service to the county."

A 30 in. dia. pipeline supplies water to a 57 ft. dia. Eimco process reactor clarifier, an upflow solids-contact type unit of 3,000 gpm capacity. Process water is filtered in three 8 ft. dia x 25 ft. pressure filters. Further purification of the process water takes place in the Infilco-designed demineralization (ion exchange) plant. Three catexer and 2 anexer components are designed for operation at a maximum rate of 1,060 gpm with two lines in service and one out for regeneration. Foxboro instrumentation makes the water treatment plant operation automatic.

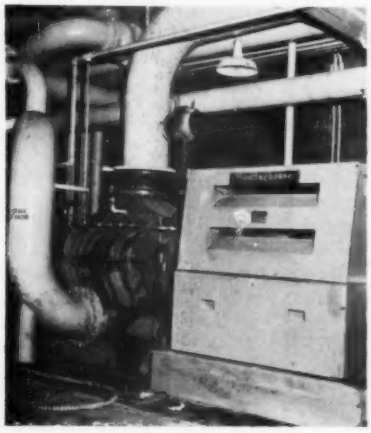
Two secondary anexer exchangers provide boiler make-up water at a rate of about 60 gpm. Aluminum piping is used throughout the mill for distributing demineralized water.

To guard against pollution extreme measures were taken, states operating project manager Olsen. A Dorr-Oliver saveall in No. 3 mill reduces fiber loss to minimum. Effluent systems of the old and new portions of the plant are equipped to maintain pH between 6.5 and 8.5. Holding basins are provided so that no "sludging" to river can occur. ■

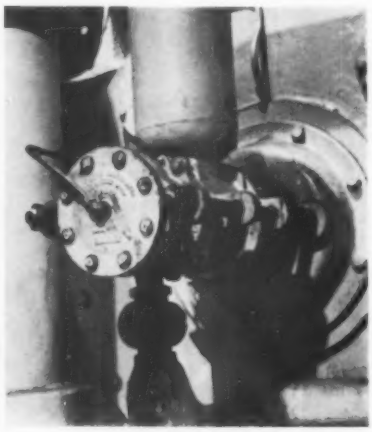


FINAL STOCK PREPARATION is provided in three Jones Majestic jordans.

ONE 600 HP MOTOR drives the Roots-Connersville vacuum pump.



SELF-COMPENSATING STEAM JOINTS by Johnson are on machine dryers.



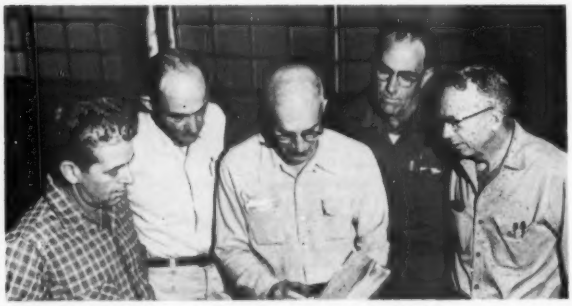
ITS PEOPLE

ROBERT J. HALLANGER
Director of Engineering

E. J. CAVANAUGH
General Supt.

FIBREBOARD ENGINEERS on Project 3 were (from left), Carl Horst, Earl Lawver, engineer in charge; Frank Bridgeford, A. F. Tyrill, R. L. Henderson; E. P. de Prosse and E. A. Collins.

STAFF MEETING discusses start-up: From left are Paul Olsen, project mgr.; Claude Stitt, plant mgr.; Clay Serrahn, service supt; Dorothy Thornton, secretary, and G. B. (Mac) McCuish, personnel mgr.



CONTINUOUS DIGESTER OPERATIONS are studied by (center) Scott Smith, pulp mill supt. with Tour Foremen (from left) Russ Heapy, Cecil Sexton, Ray Friday and Brose Toner.

EQUIPMENT NOTES

PULP MILL

Continuous digestion—Kamyr Inc.; blow tank—Kaiser Steel; Solvo-Fibrilizer, black stock screens, Vibrooke rejects screen—Improved Machinery; liquor heaters—Esco; heat exchangers—Rosenblad; liquor oxidation—A. H. Lundberg; foam breaker—Dorr Oliver; washers—Swenson; Rectiflow motor drives—Westinghouse.

PAPERBOARD MILL

Fourdrinier board machine, horizontal size press, Autoflyte reel, winder—Black-Clawson; primary and secondary headboxes—Valley Iron Works; primary and secondary fan pumps—Warren Pumps Inc.; vacuum pumps—Roots-Connersville; Double-D refiners and Majestic jordans—E. D. Jones; condensate systems—Mason-Neilan; broke conveyor—Hewitt-Robins; saveall—Dorr-Oliver; lineshaft drive turbine—Westinghouse; drive belting—Extremultus; tile work—Stebbins Engineering; automatic roll strapping conveyor, roll lowerator—Mathews Conveyor; roll scale—Toledo Scale; bulk starch systems—Corn Starch Products.

CAUSTICIZING PLANT

Slaker, washer clarifier and drives, dregs mixer, mud washer and drive, fireboard lime crusher— Dorr-Oliver; kiln and drive—Traylor Engineering; kiln refractory—J. T. Thorpe; fuel oil firing—Coen Co.; flue gas scrubber—Chemical Construction; lime mud centrifugal filter—Bird Machine; makeup lime systems—Albert Air Conveyor; reburned lime conveyor—Carrier Conveyor; reburned lime bucket elevator—Link-Belt; pump variable speed drives—American Blower.

EVAPORATORS

Sextuple effect evaporators—Chicago Bridge & Iron; pump (black liquor service)—Worthington.

RECOVERY BOILER

Boiler and accessories, cyclone evaporator—Babcock & Wilcox (C. C. Moore); draft fans—Clarage Fan; feedwater pumps—Ingersoll Rand; Fibreboard smelt breakers—Davis Metal Products; thermal compressor—Schutte & Koerting; electrostatic precipitator—Koppers; flue gas scrubber—Chemical Construction Co.; smelt tank vent scrubber—Buell Engineering; deaerator—Graver Water Conditioning; turbines—Westinghouse.

WATER TREATMENT

Water clarifier ion—Eimco (Process Engineers); pressure filters—Infilco.

GENERAL

Electric Motors—U.S. Electric Motors, Louis Allis, Westinghouse, General Electric, Reliance, Master Gearmotor, Century; Pumps—Goulds, Worthington, Fairbanks-Morse, Warren, Bingham, DeLaval; Chemical pumps—Clarkson, Lapp, Milton Roy; Consistency control and regulation—Fisher & Porter; Instrumentation—Foxboro, Leeds & Northrup, Bailey Meter; Heating, ventilating and air systems—Drew Engineering; Service and roll cranes—Crane Hoist Engineering; Tanks—Consolidated Western Steel, McDonough Steel; Agitators—Mixing Equipment; Electrical switchgear—Allis Chalmers; Air compressors—Chicago Pneumatics.

Rhinelander's Kenneth Goddard tells how

AUTOMATED INVENTORY

"Saves Us Time And Dollars . . ."

In his own words, the Tabulating Dept. Supt. of this Wisconsin mill tells why they put electronics in the storeroom, how it is done—

Rhinelander, Wis.

Rhinelander Paper Co. is now enjoying the advantages of an automated system for handling thousands of items in a repair and maintenance parts inventory. Rhinelander, a division of St. Regis Paper Co., installed the system more than a year ago, after another year of investigating, planning and more planning.

Many improvements

have been made by this system of stores inventory. One of the greatest is the elimination of the manual entries previously required in the hand-posted files, with a subsequent reduction of stores personnel. Many thousands of computations are now made more accurately by our Univac and tabulating equipment, and in a fraction of time previously required.

Time previously spent on this work is also being used in part to more effectively control the many thousands of items necessary to stock, and to locate items which may be eliminated from the inventory. Storage facilities have been rearranged to group material by major code classifications, which helps in locating items faster.

ELECTRONIC BRAINS AT WORK are the Remington card converter (left) and NRC Accounting machine (right).

Order points are easily controlled with the automatic accumulation of total monthly usage of each item. Each month a list is prepared by the Tabulating Department showing the stock number, material description, and total monthly usage. These figures are manually posted on the traveling requisitions and a valuable record of use is compiled.

In 1958 a newly formed Policies and Procedures Committee embarked upon a program of office automation throughout various departments in the mill. The aim of this committee was, and is, to study areas most feasible for improved automation and to provide systems which result in faster and better means of processing information. Result: Savings of time and dollars.

It was realized that the mill stores inventory had outgrown the capabilities of the old hand-posting system. Visits were made to several companies using automated inventory systems and initial ideas were obtained. Equipment manufacturers also were consulted for additional information.

A unique tailor-made system for Rhinelander's requirements was then developed. It would provide close inventory of maximum and minimum levels, reduce most of the computations to machine functions, keep inventory balances at a current status (within 24 hours), and remove accounting functions from the stores dept.

Most of the necessary equipment to handle such a system was already in operation (i.e. a Remington Rand Univac 60 and associated tabulating equipment) but the acquisition of additional equipment to complete the project was carefully planned.

Three different systems were analyzed for possible use and the Remington Rand Kolect-A-Matic files for use with traveling requisitions and daily print-outs was finally selected.

It should be pointed out that during the preliminary work, top management provided close support through the Policies and Procedures Committee, and participated in the selection of the best equipment to do the job.

The old system consisted of hand-posted files for records of purchases, receipts, disbursements, and monthly usages. In order to obtain the total dollar value of stores inventory each year, it required several days to manually extend and tabulate the value of the 18,000 items. (With the present equipment, values can now be computed in three to four hours.)

Prior to selecting equipment to handle the new system, every item in the stores inventory had to be given a stock number and material description, and items had to be grouped for catalog and record-keeping purposes. Two employes of the stores department were assigned this task and they completed the job in seven months. The tabulating department punched individual tab cards containing these data for preparation of a master deck which would be used as a basis for maintaining current inventory and monthly usage records, along with other records of daily transactions. These cards were also used for printing the catalogs. As new items are stocked, cards are punched and placed in the master deck. Cards for obsolete items are removed and destroyed upon notification by the stores department.

Several months were spent designing forms, programming computer runs, writing procedures to be followed in the operation of the system, and obtaining equipment to be used. Code numbers and material descriptions were printed on 18,000 title inserts and traveling requisitions, and they were inserted in the Kolect-A-Matic files. The task of typing material specifications, sizes, costs, weights, vendors' names and catalog numbers, maximum and minimum inventory levels, and order points on the traveling requisitions took five months.

Next, eight Kolect-A-Matic files were obtained and placed in the stores department. Within these files, each item has a title insert (for location of items by stock number and material description), traveling requisition, and print-out. The title inserts and traveling requisitions have the stock number and material description printed on the top for easy reference. The title insert is visible only when the traveling requisition is out of the file. The print-out contains data regarding stock number, date of last issue, receipts, withdrawals, returns, usage this month, and quantity on hand.

Unit prices and quantities on hand were transferred from the hand-posted file to the master deck of tab cards. Print-outs were made from the entire master deck and filed in the Kolect-A-Matic files just prior to conversion to the new system. Each time an item has activity a new print-out is issued and replaces the old one which is destroyed. New print-outs are made daily from data contained in the new master cards that are created as a result of the various computer runs.

Some 18,000 items were included in the new system when it began. Each had been given a stock number, material description, unit of issue, and unit cost. A catalog was printed showing this information and distributed to departments requiring copies. Through careful control of inventory levels, by checking on monthly usages of items, and by detecting and eliminating old or obsolete materials, it became possible to reduce the number of items on hand from 18,000 to 17,000. This was done despite several hundred additional items it became necessary to stock for new equipment.

Maintenance employes are dispatched to each job they work on. All materials used on the jobs are charged to account numbers and job numbers shown on their work orders. As they withdraw materials from the storeroom, they prepare a stores disbursement form which is presented to one of the disbursing clerks. This form shows the date, stock number, size, material description, quantity, account number, job number, and signatures for authorization to disburse, by whom disbursed, and by whom received. If several items are used on the same job, they may be listed on one disbursement form. An average of 500 disbursements are made daily from the storeroom.

When the system first started, detail cards for disbursements from stores were manually keypunched. This job took four hours a day. To reduce this time an analysis was made of possible use of a paper tape producing machine for recording disbursements and a tape-to-card converter for preparing

BIG BRAIN IS UNIVAC 60, shown as the electronic computing board is inserted to make tabulations.

PUTTING SYSTEM IN OPERATION, teams prepare thousands of items with individual code numbers from new catalog. From left, new items are coded, items already on shelves are given numbers; center, entire stock is then checked out; right, to make sure each item is correctly identified in catalog.

the detail cards. A National Cash Register Co. Model 160 accounting machine intercoupled with a tape recorder now does this job satisfactorily and saves approximately three hours each day. It prepares tape to be used for automatically punching the detail cards.

The disbursement forms are given a final visual check and then manually entered by stores personnel on the NCR 160 which produces a paper tape with necessary data punched into it. This tape is sent each day to the tabulating department where it is processed on a Remington Rand tape-to-card converter attached to a keypunch. This operation produces a tab card for each item disbursed the previous day. Included in the data punched on the card are the date, stock number, quantity disbursed, account number, and job number.

In a single computer run, the material description, unit of issue, unit cost, extended amount, quantity received, withdrawn and returned, quantity on hand are punched.

All of these data are contained in a master deck of tab cards with which a computer run is made daily to update the items having activity. Each item master having activity will be replaced in the master deck the following day with a new tab card showing a summary of the transactions and current inventory balance.

An active deck of approximately 5,000 items and an inactive deck of approximately 12,000 items are maintained. The inactive deck contains master cards for items not having transactions within the last four to six months. The date of last issue is periodically checked on the Univac to remove items not having recent activity (within four months), which keeps the active deck to a minimum size.

When an item in the inactive deck has a transaction, it is manually removed, used for the daily computations, and filed as active. In order to record the receipt of items to be added to the inventory, the receiving department prepares a list daily of the stock numbers and quantities of items received. This list goes to the tabulating department and the detail cards included in the computing runs.

Items are frequently returned to stores and must be credited to the account number and job number they were previously charged to. Stores personnel issue credits that are sent to tabulating, manually keypunched, and included in the computer runs.

SMOOTHLY RUNNING OPERATION is checked out daily. Key activity is running check on traveling requisitions (left) made before they are sent to purchasing dept., Kolect-O-Matic files (right).

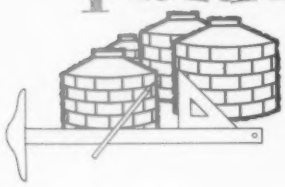
An average cost basis is used to charge out all stores inventory forms. The Univac is used to compute new average costs each time an item is reordered. Data required for these computations are taken from the invoices by the accounting department, listed by stock number, total dollar value, and number of items received.

About 350 print-outs are prepared each day. They are sent to stores to be inserted in the Kolect-A-Matic files in their proper location as determined by the stock number. As the new one is inserted, the old one is removed and destroyed since it no longer shows the status of this item.

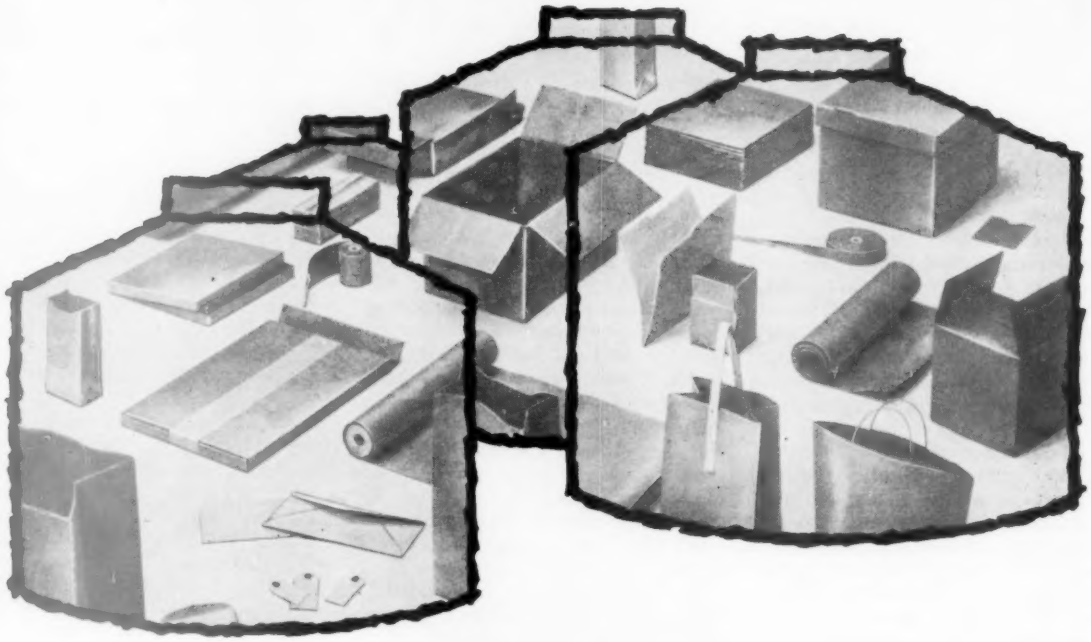
As the new print-out is inserted in the file, the quantity on hand is visually checked with the order point appearing on the traveling requisition. ■

WEST END

advance planning



OF ENLARGED SALT CAKE STORAGE ANTICIPATES INDUSTRY'S GROWING NEEDS



WEST END as a major supplier of highest quality natural salt cake programs expansion of its in-plant storage to meet ever-increasing requirements of industry. West End is constantly exploring new solutions to transportation, distribution and handling problems to assure its continuing position as a reliable and economical source.

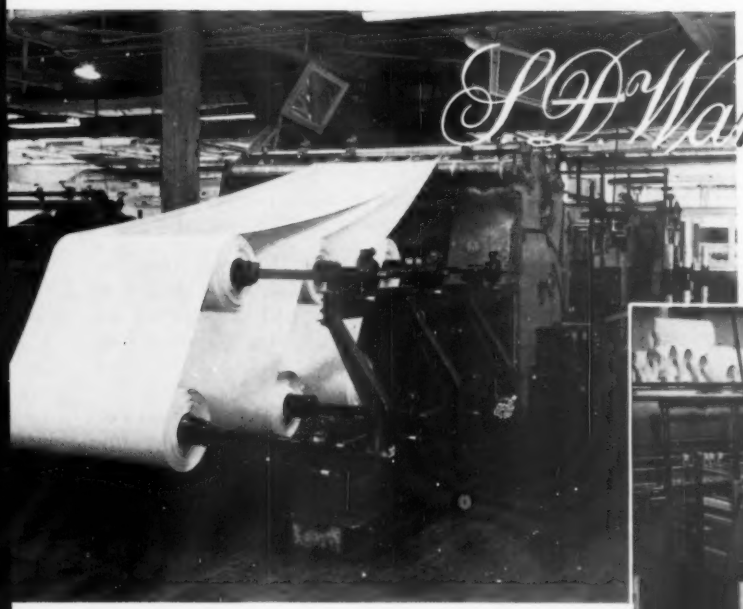
Stauffer CHEMICALS

WEST END CHEMICAL COMPANY • DIVISION OF STAUFFER CHEMICAL COMPANY

636 CALIFORNIA STREET, SAN FRANCISCO, CALIFORNIA • PLANT: WESTEND, CALIFORNIA

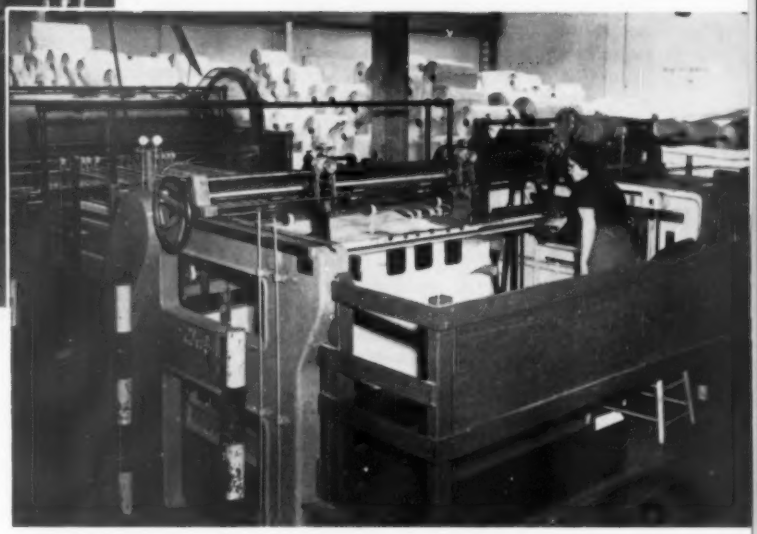
4 *Clark-Aiken* SHEETERS REPLACE 7

and more than double production at



S. D. Warren Company

CUMBERLAND MILLS, MAINE



CLARK-AIKEN machinery is keyed to fast, efficient finishing room production that saves TIME, SPACE and MONEY!

For the S. D. Warren Company, replacing seven machines with four new Clark-Aiken precision engineered sheeters was a wise investment that immediately paid off in production dividends. Tailored by Clark-Aiken engineers to fit their exact requirements, the new sheeters have more than doubled production. And just as important, they maintain high quality with extreme accuracy, require less plant space, give greater production control and eliminate unnecessary labor costs.

If the finishing room has your plant's production bottled up, a consultation with Clark-Aiken engineers can produce a solution that will answer your precise specifications. Their complete knowledge of the paper machinery field can help you realize the practical finishing room automation that will increase your production and lower operating costs. An inquiry to Clark-Aiken will bring you a considered and qualified recommendation.

MR. WALTER S. CARR, Finishing Department Superintendent, S. D. Warren Company, Cumberland Mills, Maine reports:

"We have four Clark-Aiken sheeters in our coated division. These four sheeters replaced seven previously used, and each one more than doubled the production over the cutter it replaced.

"These installations require less setting time because of easy accessibility to adjustments under the layboy.

"The 'Spiral Shear' cylinder knife leaves a clean edge and cuts twice as many sheets at one time as the previous type did.

"P. I. V. Units for changing type speeds give safe running at faster speeds."

THE *Clark-Aiken* COMPANY

957 SPRINGFIELD ROAD

LEE, MASSACHUSETTS

CANADIAN REPRESENTATIVE:
GORDON W. KEATES, 133 FLORA DRIVE, SCARBOROUGH, ONTARIO

Continued from page 7

found on enlarging the area under the curve of loss of opacity with time over the first 15 seconds that, while their assumption that the curves passed through the origin was incorrect, these areas were proportional to ink absorption and could be used to guide research on improved ink holdout."

A proof press is superior to bench tests for critical study of print quality. Three factors which must be kept under rigid control in the Vandercook proof press are (1) speed of the press, (2) quantity of ink on the plate and (3) printing pressure. Control of the third has been extremely difficult. The authors modified No. 4 Vandercook in such a way that exact and reproducible pressures are transferred from a pneumatic loading system to the impression cylinder and hence to paper and plate. Thereby papers of varying calipers and compressibilities are still printed with exact and known pressure, which can be reproduced from one test to the next as long as desired. Precise comparisons can be made among various samples and, when combined with controlled press speeds and ink levels, become a precise research tool for reproducible evaluations after extended lapses of time.

Elimination of the need of changes in packing to obtain the same lineal pressure on light or heavy weight papers and even board makes the test procedure extremely rapid and it lends itself to control work as well as to research. The added feature of rapid alteration of printing pressures over a wide range from one sheet to the next permits a quick study of still another parameter in the evaluation of printing papers.

Acceptance Sampling in Fine Paper Finishing—Gordon Campbell, E. B. Eddy Co., and Edward Forst, Stevenson, Jordan & Harrison, Engineers, New York.

Investigation confirmed a Wiggins Teape (England) study showing finishing end sorters were rejecting about 7% of paper of which 12% was for drying faults, 47% dirt, 2% for creases, 15% for out-of-register, 14% for torn sheets, 6% miscellaneous, and 4% were found good. But several packed reams were found 30% rejectable.

This acceptance sampling system uses formal sampling plans, with calculated sampling risks and designed quality levels. It was designed for intelligent use of rejected lots, also. One inspector controls two sheet cutters. Inspectors are permitted to say only "yes" or "no" to comparisons they made; judgments are eliminated. Sampling inspectors are the key—they must be carefully selected and trained. Some training of supervisors is required.

The inspector's tools are a clipboard, Veeder-Root counters for keeping track of defects in his sample, a Defect Manual, Inspectors Manual, Product Specification Manual, data forms, lights, etc. The Quality Requirement Record in the Product Manual lists the specifications he is to enforce. A Special Practices Manual describes any special precautions he must take. First piece inspection is done at backstand. This is verified when sheet cutting begins. The run cannot be released into production without inspector approval. He samples at random and communicates corrections to the operator. Roving inspectors also examine trimmed reams for a final check. They, too, operate with sampling plans. Complaints have been reduced and customer satisfaction has improved.

Observations on Taking Drying Mashine Heat Balance—James Warburton, Steam Plant Engineer, Canadian International Paper Co., Temiskaming.

Tests were made in different CIP mills. Taking of heat balances has worked out well for CIP. A major point was to get as many workers interested in the operation as possible. Be on hand and discuss the tests with operators. Awaken interest wherever a heat balance is taken. Curiosity and thought will get improved results for the mill in its drying procedures.

Performance of Slotted Orifice Air Dryers—Tom A. Gardner, staff engineer, Marathon division of American Can Co., Menasha, Wis.

Development of these high velocity dryers was done largely by Mr. Gardner in spare time with equipment provided at Marathon's Menasha mill and the nearby Gilbert Paper Co. Overly's made the equipment he developed, marketed by Rice Barton. Chief factor in their success was use of slotted orifices, instead of round, and full use of small geometry of nozzle design. Slot spacing 1-in. apart has 35% better performance than 3-in. spacing.

Small geometry and slotted nozzles led to unusually good drying uniformity. Close confinement of drying air within the hood is a desirable feature obtained with close spacing. Knowledge of engineering laws and the nature of high velocity air systems are necessary for a purchaser in order to make improvements and corrections. Control of drying rate is best accomplished through variation of the supply air temperature and/or of the temperature of the cylinder over which the dryer may be mounted. High velocity dryers usually have systems which yield substantially constant nozzle velocity and volume flow through large ranges of air temperatures and humidities.

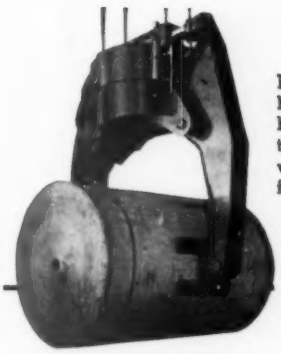
He noted that air temperature is more critical than is generally known. Paperboard is axiomatically more difficult to dry with high velocity air. Leveling of moisture variations across a machine is possibly a good application for high velocity dryers. He credited the high rate of heat transfer, cross-machine uniformity, close containment of air, and simplicity of design with assuring the success of high velocity dryers.

Evaporation from Thin Web on Paper Cylinder Dryer with Air Impingement—Claës G. Allander, vice president and chief technical advisor, Svenska Fläktfabriken, Stockholm, and professor, Royal University of Technology, Stockholm.

Dr. Allander describes a method of calculation used to enable the estimation of evaporation intensities and temperatures at different points on a paper machine. Numerical calculations show that the effects of dryer caps in small cylinder machines are not necessarily positive and under certain conditions the evaporation in the machine can decrease, consequently it is very important to make thorough calculations before the installations of such hoods on these machines.

Digital Draw Indicator — O.K. Lauren, Spruce Falls Power & Paper Co.

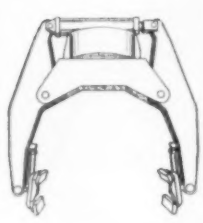
Speedup of newsprint machines over 1500 fpm created a need for more reliable and accurate draw indication. Vacuum pickups introduced a critical draw between wire and pickup which could no longer be visually checked. After installation of new Fourdriniers and presses on two machines at Spruce Falls analogue draw indicators were tried but abandoned after two years. Plans for a digital indicator were taken to Dynapar Corp., Skokie, Ill., which constructed a fully transistorized draw indicator. Placed in operation on No. 3 machine in January 1960, it performed within



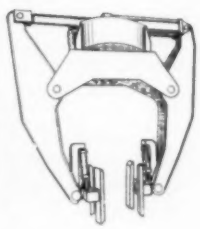
Handles rolls like a giant hand. Picks them up from horizontal position and sets them down vertically or vice versa. Holds them firmly even with power off.

HYDRAULIC ROLL GRAB WITH OUTSTANDING FEATURES

- Simplified Construction
- Dependable Grip
- Power-Fail Safety
- 90° Roll Turn-Over
- Adjustable to Roll Sizes



Present designs take rolls to 60 inches. Larger ones can be built.



Rolls with diameters as small as 18 inches can be handled.

THIS roll grab has been designed by Cleveland Tramrail engineers for heavy duty service. It is available for picking up and carrying rolls weighing to 6000 lbs. It will accommodate roll diameters from 24 to 60 inches and lengths from 36 to 120 inches.

The grab's construction is based on Cleveland Tramrail's long experience in the handling of rolls. More than 30 years ago Cleveland Tramrail developed the first power-operated roll grab and has been making improvements ever since. Many mills and converters are now being served by Cleveland Tramrail roll grabs and overhead cranes and track systems. In some, rolls are piled over 40 feet high with this equipment, thus *saving floor space, reducing roll damage* and *cutting costs enormously.*

A big advantage of the hydraulic roll grab is its simplified construction which aids operation and minimizes maintenance. The grab has a powerful grip which will hold rolls firmly and, even if the power should be interrupted, will retain its hold for hours. Rolls can be turned from horizontal to vertical position and vice versa. The grab is sold for use only on Cleveland Tramrail systems especially designed for roll-handling service.

CLEVELAND TRAMRAIL

Overhead Materials Handling Equipment

CLEVELAND TRAMRAIL DIVISION • THE CLEVELAND CRANE & ENGINEERING CO. • 6728 E. 287 ST. • WICKLIFFE, OHIO

Continued from page 56

anticipated accuracy of ± 1/10%.

Model 70B Rotopulsers are used as pickups. They gave average measuring time of 3.5 sec. per reading at 2,000 fpm. Pickups are mounted on wire turning roll, inclined press granite roll, third press granite roll and a dryer in-drive shaft—giving draws from wire to inclined press, from inclined press to third press, and from third press to dryers. Shielded cables connect Rotopulsers to readout and control unit, then to counter with adjustable presets and finally to stabilized power supply.

No maintenance was required till August 1960 when defective counter tubes had to be replaced.

Second indicator was placed on the No. 4 machine in November and others are on order.

A percentage method of operation nullifies any need for computations by operator, regardless of speeds. Operators are able to set all sections to correct speeds at startup, before blowing "tail" through. Adjustable predetermining counter setting makes it possible to easily compensate for roll diameter changes, resetting selector switches without need of test runs or calibrations checks. The 1/10% sensitivity provides higher accuracy, as draws cannot be visually estimated closer than 1/2%.

Felt Air Porosity Measurements—Donald M. Grant, field service engineer, Kenwood Mills Ltd.

The advent of the Huyck-Smyth porosity meter has made it possible to measure the porosity of felts in operation. This meter was invented by Tom Smyth, technical superintendent, Crown Zellerbach Corp. newsprint mill at Port Angeles, Wash. Huyck acquired rights for further development and production of the meter, and the meter is available in Canada from Huyck's affiliated Kenwood Mills.

It is a portable vacuum box with perforated face, which is placed against the running felt to be measured. A swivel mounted vacuum gauge has connecting hose, throttling valve and vacuum regulator for calibration. Rapid and simple calibration is a feature. Various tests were exhibited and some with surprising results. Further study is needed on the effect of operating size on felt porosity.

Huyck-Kenwood engineers are anxious to devise an accurate system to predict a felt's water removal characteristics. A beta ray gauge has been obtained to measure water balance around suction press under different operating conditions. This may permit relating of porosity measurements to water balance under varying conditions.

Basic Study of Water Removal at Press—J. S. Sweet, Albany Felt Co. of Canada Ltd.

An experimental press section was constructed for this study. The overall process of water removal was found to be the sum of two sub-processes. One occurs on the in-going side of the nip, the other on the out-going side. On the in-going side the felt plays a vital positive role by serving as a permeable medium through which can drain the water squeezed out of the paper by mechanical pressure applied to the rolls. On the out-going side, the felt plays a negative role because of a tendency toward re-wetting of the sheet by capillary absorption of moisture from the felt. The net effect is that of the water removed from the paper at the press is removed on the in-going side of the press nip. This is contrary to the widely accepted idea that much or all of the water is removed through absorption by the felt.

To obtain optimum water removal it is therefore necessary to design both the paper machine and the felt so as to maximize the in-going process while minimizing the out-going process. In practice, however, there are certain other limitations which present the difficult task of seeking the best compromise solutions to the design problem in both felt and paper machine.

Performance of Formex on 800 fpm/Newsprint Machine—R. MacPherson, paper mill supt., Laurentide Division, Consolidated Paper Corp. Ltd.

Formex plastic wire cloth has been used continuously since March 1960 on Laurentide's Machine No. 2. Sheet quality and machine efficiency were said to be as good or better than when metallic wires were used. Better than twice the wire life was reported on four Formex fabrics and longer life was said to be indicated. This machine is 120 inches wide.

These further advantages were reported revealed in the use of Formex on this machine: (1) Not prone to edge cracks, pimples, jams or ridges; (2) resistant to corrosion; (3) wear can be equalized on both sides since the fabric can be turned over like a felt and this has been done on three; (4) strands in the cross-machine direction take the wear so there is small reduction in machine direction tensile with age; (5) releases wet web at couch more easily than bronze, producing safer draw; (6) produces dryer sheet at couch, probably meaning dryer sheet to dryers, giving steam economy; (7) has no seam to fill up or fail; (8) remains cleaner in that holes in the sheet due to "wire spots" are almost unknown.

Apparent disadvantages compared to metallic wires: (1) Subject to wrinkling under changes of tension, necessitating the use of three Mount Hope Machinery spreader rolls after couch, after stretch and before breast roll; (2) greater stretch; (3) lower tensile strength; (4) will tear more easily; (5) subject to puncture by hard objects which can be serious and lead to immediate failure; (6) fines stick to the Formex and then transfer to return rolls; (7) various modifications of Fourdrinier section are required, entailing added expense, including, besides Mount Hope rolls, a stretch capable of taking up to 3% increase in fabric length, additional return rolls, well fitted doctors on all these, water jet actuated guide, slotted cover on first wet flatbox and extension of saveall trays.

Formex is priced about double bronze but the author said, while not yet proven, it is indicated it will outperform bronze 2½ times.

Model Experiment in Pulp Blending—Edward F. Thode, administrator, engineering and technology section, Institute of Paper Chemistry, Appleton, Wis.

A four-factor two-level statistical design was tested as a model experiment in evaluating some variables in refining and blending a bleached kraft gum pulp and a bleached kraft Southern pine pulp from East Texas Pulp & Paper Co. Sixteen different treatment combinations were run. Valley beater was used for refining, standard CPPA Tech. Section handsheets were formed, and average values of tensile, tear, freeness, fiber length and centrifugal water retention for each treatment were all determined.

Paper tests indicated strength properties of individual pulps in a blend are not additive and thus negates a prediction of blend characteristics from beater tests on individual pulps. Pulp tests were interesting. The fiber length index, for example, is shown to be dependent on the main factors of composition, pine beating and hardwood beating.

More summaries of the Canadian Technical Section papers, prepared by PULP & PAPER, will be published in the February 20 issue.

G. W. Hook Jr., Hook Brothers Lumber Co.
Monterey, Virginia

"Our new John Deere T-Bar dozer *gives me much more ease of operation"*

Pioneering, road building, decking—every kind of bladework goes ahead more easily with the new John Deere "1010" Crawler and 612 All-Hydraulic Bulldozer. Every function of blade control—lift, down pressure, angle, and tilt—is under command of the single T-Bar operating lever. Hydraulics provide smooth operation, too, in the wet-clutch direction reverser, controlled by a dash lever. The same big-capacity wet clutches make it easy to slip into other operating speeds, too.

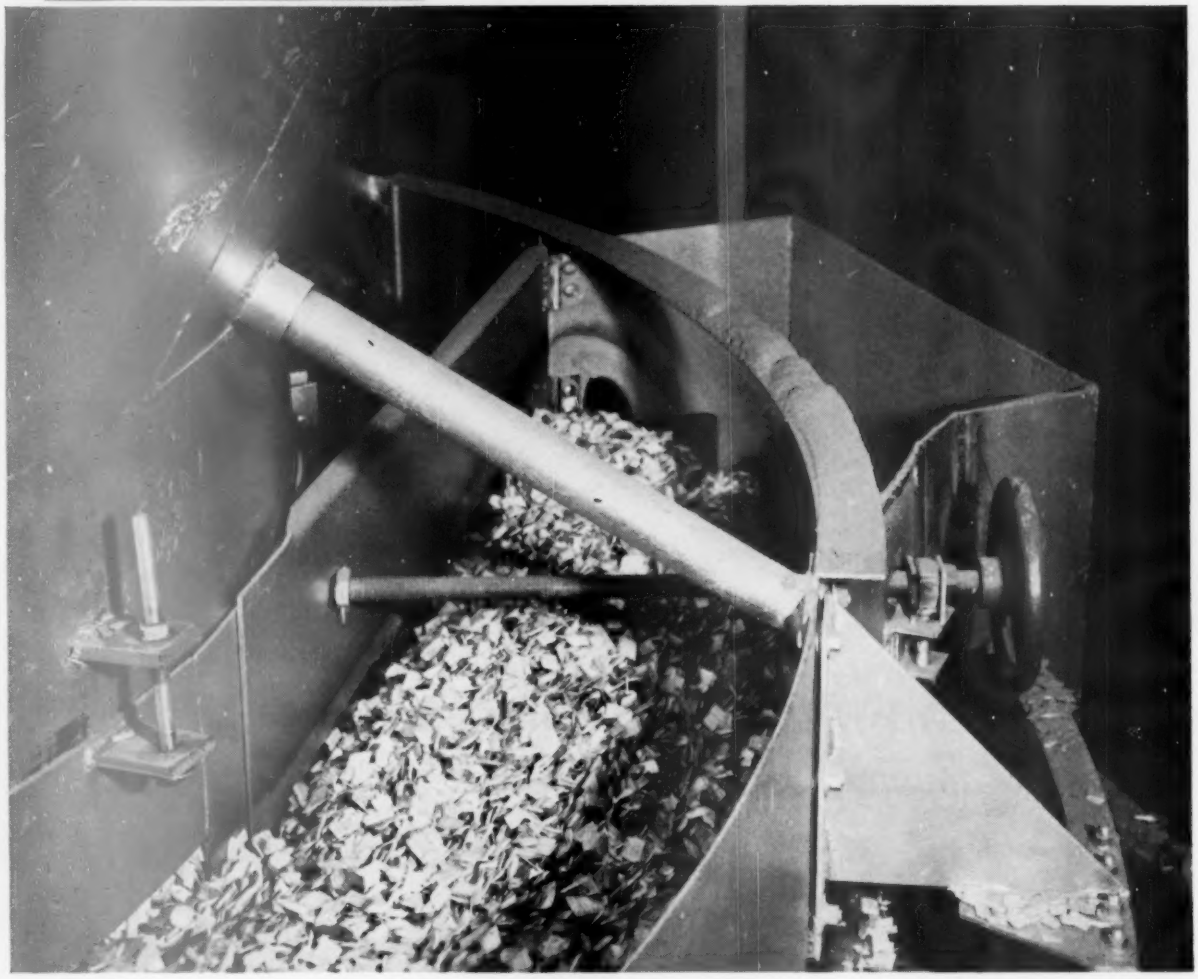
The John Deere "1010" Crawler is available with inside- and outside-mounted dozer, winch and trailing or integral log arch, and canopy. Both gasoline and Diesel models are available, each 4-cylinder engine developing 40 horsepower.

Purchase can be made on terms of the John Deere Credit Plan or long-term leasing can be arranged through the John Deere dealer. For the name of your nearest dealer, check with the classified telephone directory.

John Deere, 3300 River Drive, Moline, Ill.

JOHN DEERE TRACTORS, BULLDOZERS and LOGGING EQUIPMENT

Jeffrey devises metered flow system for Celotex



Wood chips, fed into the giant silos (above), are metered into the process system by Jeffrey 12-foot rotary table feeders.

A method for metering a constant flow of wood chips from storage silos into the production stream was needed at the L'Anse, Michigan, plant of Celotex Corporation. Specifications required the control device also be capable of adjusting to variant wood chip flow requirements. To resolve the situation, Plant Engineers Giffels and Rossetti Inc., worked in close harmony with the Jeffrey General Engineering Department.

Celotex's problem has been solved by twin wood chip storage silos. At the base of each is a 12-foot rotary table feeder. Each feeder, operating at 3 rpm, has a capacity of 5400 cubic feet, or 67.5 tons of wood chips per hour.

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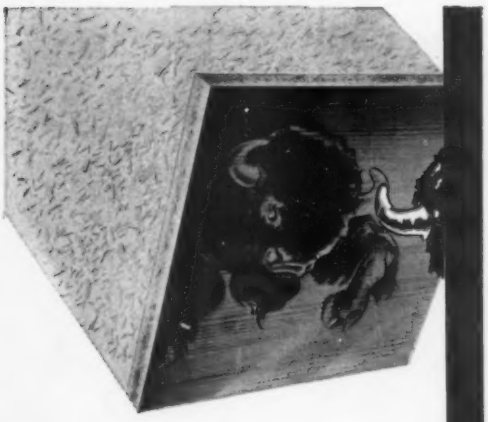

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In 40 Bison Board installations around the world today, successful tests on various types of raw materials have proved the Bison System capable of meeting most exacting requirements. New Bison System installations are now going into several sections of the nation—check with us for name of the one nearest you.

World-famous Bison Board offers many exclusive features worth your investigation—superior finishing and machining qualities inherent in its progressively graduated structure; lower finished product cost through savings in raw materials, as this is the only system that can produce a high quality board with 3500 M.O.R. when using 75% shavings.

Also investigate the exclusive glue mixing machine, lowering high cost for resins in making boards of high strength and screw-holding properties.

Every Bison System installation is test-run and proved before shipment, eliminating costly mistakes and start-ups. We can supply flakeboard *made from your own raw materials* run through a standard production plant in advance of order and without obligation. See us for details.

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economical...fast...tough...safe

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Traxcavators can do more than their routine assignments . . . with buckets, bulldozers or snow plows they take on other chores around the mill, and handle them fast.

Behind the speed of the Wheel Traxcavators are power-boosted controls, automatic fork positioners that help the operator to speed cycles; behind the capacity of the 966 are *live-action* hydraulics that put power on the fork, let the Traxcavator hustle around the mill yard with 13,000 lb. loads. The open operator's area with lift arms up front and easy on-and-off design plus machine stability promote the operator's confidence and comfort. The man on a Traxcavator is a proud operator.

See the man with the facts and the good news about the prices of the three models of Wheel Traxcavators . . . your Caterpillar Dealer. Learn about the low-cost high production a Traxcavator can bring to your mill . . . or your harvesting operation.

Caterpillar Tractor Co., General Offices, Peoria, Ill., U.S.A.

Money-saving features of the 966 Wheel Traxcavator

- 140 HP (flywheel) Cat Diesel Engine
- Power shift transmission for fast, easy operation
- Four forward speed ranges—0-22.8 MPH
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- Automatic fork or bucket positioners to speed cycle time
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CATERPILLAR

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TRAXCAVATORS ARE MAKING OTHER LOADERS OBSOLETE

American Pulpwood Association's
JIM HOLEKAMP tells why . . .

"My Trip to Europe Was A Look at the Future"

Sweden, Norway, Germany are alive with ideas but also forewarn some dangers, says the APA Southern Logging Engineer

Less than a year ago I spent 15 jam-packed days viewing forest operations in Sweden, Norway and Germany. I know now I compacted a normal 35 or 40 day trip into half a month. My visit to European forest operations exposed me to many startling ideas—ideas new to me and to a great many of the American foresters who were on the trip.

I flew over and back at a bargain rate on a charter flight sponsored by the Forest Products Research Society. (Two such tours are scheduled this year, one in April for two weeks, another in May for three.) I took over 200 color slides, mountains of notes, accepted many, many publications to study.

These thoughts stand out in my mind as a result of that trip.

1. Many of our technical problems in this country can be solved by adapting the worthwhile ideas now in use in these countries. The constant problem of keeping costs in line, pulpwood competitive, has answers over there.

2. It is possible to evaluate first hand ideas about forest labor management which will surely be thrown at us, step by step, if we lose the protection of the 12-man exemption. I find myself thinking this: If present trends continue in this country, then my European trip afforded me an eye-opening "look at the future" in the form of problems imposed by socialistic tendencies in many of these countries. Private enterprise operates under rigid governmental controls and labor unions have tremendous power.

3. In contrast to some beliefs, it is my feeling that while they have the climate for the birth of new ideas and development of technological advancement, we in this country have a more favorable climate to exploit these ideas better and faster. Main reason: We enjoy more freedom of movement, more freedom in decision-making, more freedom from strangling controls. I also feel that the secret to keeping forestry and pulpwood competitive is to maintain these freedoms.

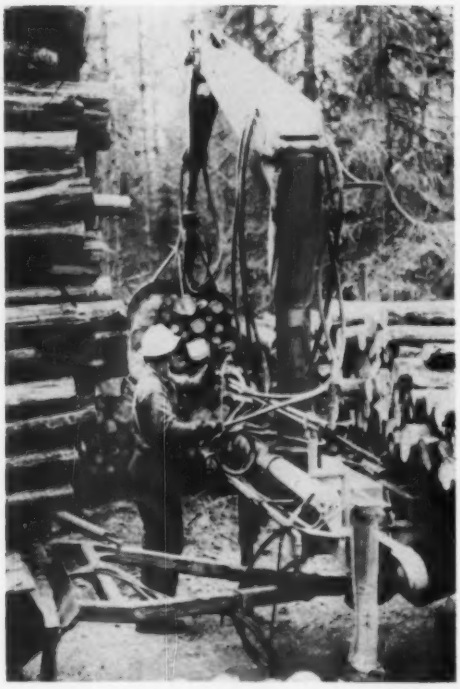
Many problems are similar to ours in the South. The problem of the small landowner in getting production from his land is almost the same in Sweden as in the Southern U.S. Land ownership, too, is very similar. In Norway, for instance, state or public lands amount to 10% (U.S. 8.5%), farmers or private landowners own another 80% (U.S. 74%) and companies or industry, 10% (U.S. 17.5%.) In Sweden the major difference is between state and private landowners, where 34% of lands are state-owned, only 50% are in the hands of farmers or private holders.

Much of the farmer-owned timberland is in long strips, say 200 ft. wide and a mile long. They are having their troubles trying to log economically these small ownerships, just as we are, with company-operated crews. Most farmers prefer to work for wages rather than harvest their own wood and put it at roadside. There is a trend toward clear-cutting and planting; the need for lower harvesting costs is the main reason.

In North Sweden, since 1906 it has been against the law for large corporations to buy forest lands. This law had spread throughout Sweden by 1921. Each company has the same problem we have in this country in trying to

Some new ideas for logging pulpwood . . . .

SELF-LOADING MECHANICAL HAND, arm and back are features of this truck and trailer used in Sweden. Producers use trucks equipped with dummy tandem rear ends and four-wheel trailers to haul 11–15 cord loads.



TRAILER IS COUPLED to truck by hitch. Note cables for lights and air brakes.

ELEPHANT LOADER SPEEDS truck loading. Made by Hiab, unit can load a 47,000 lb. payload in 25 minutes.

RUBBER - WHEELED STEEL-TRACK CRAWLERS in Europe—here Swedish Alfta track system on Italian OM Fiat.

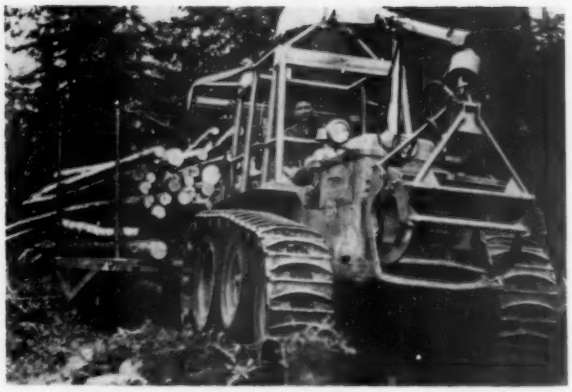
manage scattered land ownerships. They are now trying to make trades to consolidate their holdings.

In Germany the problem with the small landowner is even more acute since the forest owner must do his own cutting and cannot sell standing timber. Government regulations in Norway and Sweden compound the problem even further, since foresters or markers in the employ of county forestry boards must mark trees before they can be cut and no cutting of spruce or pine is permitted without approval from the board.

Trade unions are strong here and almost all forest workers are members of them. Most work as employes of companies buying and utilizing wood. Forestry work programs are geared to year-round employment and the development of well-trained and permanent woods labor forces. This applies especially to cutters. Most men engaged in skidding and transporting are farmers who look to the woods for work in the fall and winter.

Swedish and Norwegian county forestry boards run vocational training schools for forest workers which offer forest apprentice courses lasting as long as a year. Refresher courses lasting one to two weeks are also given forest workers.

Forest work is paid piece rate in these countries, including seedling planting. Wages per hour are then negotiated between unions and employer associations and are the basis for calculating piece rate pay. The rates are figured from special working time tables and working times are compiled for variations in timber, work techniques, distance of haul, type of

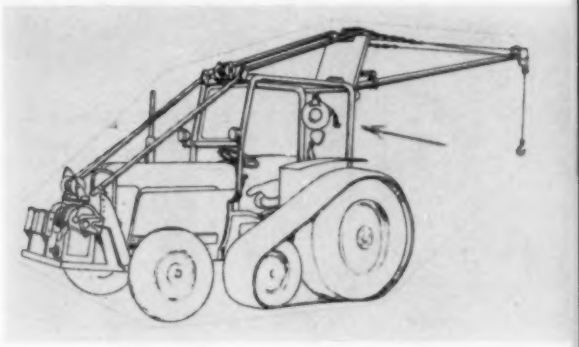


SWEDISH LOGGERS PREFER rubber-wheel, steel track combination with trouble-free operations and high productivity at speeds to 11 mph.

SWEDISH PULPWOOD CART has top payload of about 2.81 cords. Stakes are adjustable as load is raised. Note holes and pins which permit variations in outside cart widths.

EXTENSIVE USE of Sepson winch, boom and remote control attachment is made by Swedish mechanized loggers. International farm tractor with this unit, Alfta half-tracks removed.

REMOTE CONTROL WINCH AND BOOM developed in Sweden. Shown are front end winch, tractor boom and self-winding cable reel(arrow) of remote control mechanism.



equipment. And although tolls and equipment are supplied by the worker, they have access to a "tool and equipment fund" for purchasing necessary items. Trucks and mechanical debarkers are perhaps the exceptions. Trucks are always owned by the driver who is assured year-round employment. Other trucks, needed only during the peak of the hauling season, are owned by the company. Truck drivers are paid piece rates.

Typical of forestry set-ups is the one at Stora Kopparsberg, one of the larger pulp, paper and sawmill companies in Sweden. It has a productive forest of 760,000 acres with annual yield of about 400,000 cords, 47% pine, 43% spruce and 10% birch. Average volume per acre is 16 cords.

This forest is divided into eight forest districts each headed by a technical forester or forestry officer. He is responsible for administration of his personnel and growing and logging timber, on roughly 95,000 acres of timber, plus wood coming from adjacent private and state lands. Each district is divided into eight to ten ranger districts of 9 to 12,000 acres each. A ranger with two years study is in charge, assisted by skilled woods workers who have been trained into foremen. It is these foremen who provide close supervision to the cutting by company-employed crews on small private holdings.

(Editor's Note: Slides illustrating Mr. Holekamp's article are available to American Pulpwood Association members on loan. They are on file in the APA office at Sylacauga, Ala. Contact James Holekamp, 112 N. Anniston Ave.) ■

TD-6 brings out 700-800 bf

Bardill Land & Lumber Company operates 24,000 acres of hard and softwood timberlands in Vermont, on a sustained yield tree farm basis. This 55-hp TD-6 is used for carting in logs from mountain terrain, builds haul roads, and opens up skid trails.

Winch-equipped to "reach-out" and log terrain too steep to tread over, the Bardill Company's TD-6 gets valuable first-growth timber other rigs couldn't get!

loads...logging steep mountain slopes

—for Bardill Land & Lumber Co., Wolcott, Vermont

From "pockets" on steep mountain slopes that "stumped" logging crews a generation ago, this International TD-6 crawler does a businesslike job of bringing out valuable, first-growth timber.

From the real steep pitches, the "6" winches logs to the haul road. When a load is bunched, the "6" carts 700-800 bf at a time to the truck loading ramp. Owner is Bardill Land & Lumber Co., Wolcott, Vt.

"Our 6-cylinder International TD-6 brings out 150-200 board feet more per load than our former 4-cylinder machine," states manager Justus Wheeler. "In addition, we save 18-20 minutes in faster return from loading dock to woods for another load.

"Here, rough terrain, ledges, and streams restrict us, and we find this TD-6 an ideal size machine as it is more stable and has better work speeds."

Built for rough woods work

For smooth, high-torque, grade-beating work power, the TD-6 has the wallop of the direct-start 6-cylinder 55-hp D-282 Diesel. The TD-6 dry-type engine clutch has a full-face sintered metal driven member —to give high power-transfer efficiency and defy heat. Only the TD-6 gives you the maximum track-to-ground, traction-getting contact—assured by exclusive International 3-point track suspension.

Whether you're logging the roughest, toughest steepest terrain or ordinary woodlands—for pulpwood or sawlogs—see how the 55-hp International TD-6 can deliver you new operating economy; new production profits. Compare TD-6 operating ease and riding comfort to competitive rigs. Let your International Construction Equipment Distributor demonstrate.

International®
Construction
Equipment

International Harvester Co.,
180 North Michigan Ave., Chicago 1, Illinois
A COMPLETE POWER PACKAGE

Problem: Carrying heavy spraying equipment in woods

Problem: Hauling heavy equipment used for spraying trees and bushes through the woods.

Place: Small landowner, Filer City, Mich.

Solution: This clever landowner simply strapped his 2½ gal. spraying tank to a regular golf caddy cart. He pulls it along behind him, can set the cart up for spraying or spray on the run, as the mood strikes him. Reported by the American Pulpwood Assn., this idea was refined by a second producer who built a special two-tank cart of his own. Using oversize wheels, he built the cart of tubular steel, supplied it with a platform and snapped the twin-tanks into position with a heavy screen door spring. Total cost of this clever conversion is only $12. The single caddy cart rig can be used with no alterations whatsoever. It is rugged enough to handle the tank, too. Free-wheeling balloon tires provide enough ease and clearance for the idea to be adapted for even rough terrain, says APA.

NO MORE BACK-BREAKING TRUDGES THROUGH THE WOODS for this clever producer who adapted golf caddy cart to carry spraying equipment.

USING SIMILAR IDEA TO CADDY CART, this man devised own cart using two spray tanks. It has 12 in. wheels, special platform for tanks.

CLOSEUP OF MAN-MADE CART shows big wheels, sturdy construction, screen door spring which holds tanks in place. It could use more wheel clearance.

HOW YARWAY BLOW-VALVES REDUCE DIGESTER OPERATING COSTS

Faster blow

Valve by valve comparisons show Yarway Seatless have up to 100% greater discharge area than some other digester blow valves of the same nominal pipe size. Result—faster discharge, lower pressure drop.

Cleaner blow

Steam purging is unnecessary since Yarway's seatless hollow-sliding-plunger design eliminates all pockets where wood chips or tramp metal can hang up.

Tighter seal

Yarway's tight seal (spring-loaded packing rings above and below inlet port) prevents loss of cooking liquor and insures thorough cooking of pulp.

It all adds up to reduced blowing time, more cooks per day, greater output of pulp—
LOWER DIGESTER OPERATING COSTS.

Send for free bulletin on the selection, operation and maintenance of digester blow-valves.

Yarway Blow-Valve in open position. Note full, free discharge.

REMOTE-CONTROLLED, ELECTRIC OR HYDRAULIC OPERATION
Yarway Digester Blow-Valves may be controlled from any remote point. Choice of motor-unit or hydraulic-cylinder operation.

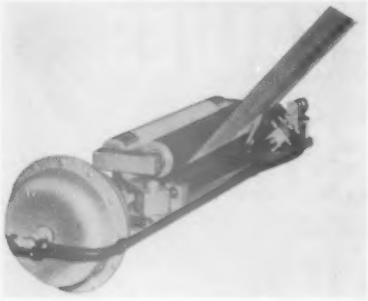
YARNALL-WARING COMPANY
100 Mermaid Ave., Philadelphia 18, Pa.
BRANCH OFFICES IN PRINCIPAL CITIES

YARWAY DIGESTER BLOW-VALVES

NEW EQUIPMENT

Web guide

. . . for light gauge materials



Applications: Intermediate-point unit (Model 111-V) is recommended for either horizontal or vertical edge-guiding immediately following unwind operation, immediately preceding stationary processing or at rewind.

Advantages: Any deviation in web alignment is instantly perceived by special sensing head, is transmitted to actuator, which physically repositions the guide rolls. Web is instantly restored to its correct path.

Specifications: Unit maintains side register on a 12-in. max. width web with accuracy of up to ±0.005. Available as a regular unit with components tailor-made to any web processing operation.

Supplier: **Stanford Engineering Co., Salem, Ill.**

Log stacker

. . . an improved series

Applications: For unloading and sorting logs by length and species.

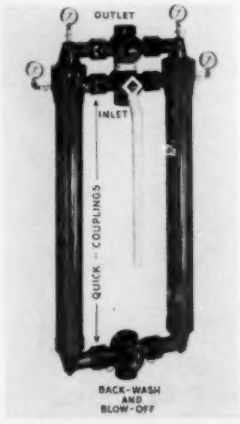
Advantages: Series FJ has undergone electrical and structural design improvements that now give it a 25-ton lift capacity. Structural components are built of heavy nickel-chrome alloy steel to give added strength. Mast structure is reinforced, and car structure has new wrap-around design. Larger main and side thrust rollers are said to give smoother lift and longer service life. All-weather cab has no-glare "picture window" visibility. Heavy-duty windshield wipers are standard. Swivel-type control panel and air cushioned seat unit permits operator to face direction of travel. Available is an independently-operated cable kicker that removes logs from forks.

Specifications: Length (including forks)—43 ft. 7 in.; length (less mast)—33 ft. 2 in.; fork length—10 ft.; width—12 ft.; height—29 ft. 5 in.; wheelbase—23 ft.; turning radius—approx. 26 ft.; elevation of forks (mast vertical)—20 ft.; power source—275-hp diesel engine driving ac generator and dc generator direct coupled in line with engine.

Supplier: **R. G. LeTourneau Inc. (request Specification No. 106), 2399 S. MacArthur, Longview, Texas.**

Fluid filter, strainer

. . . quick-coupling unit



Applications: For clarification of any fluid containing foreign particles in suspension.

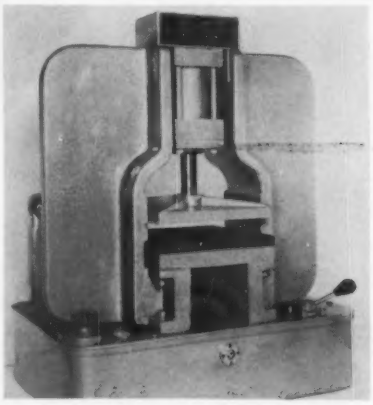
Advantages: Each filter has inlet and outlet gauges to record pressure differential. Two filters are mounted together with reducing streamlined three-way valves to make one Double Duo. Filters may operate together or alone and may be backwashed and blown down on the run. All filters are quick-coupling. Off-Service-On in a matter of moments. Units sealed at both ends, are non-short circuiting.

Specifications: Rated 5 to 150 gpm; 10 to 700 mesh (30 microns); pressures to 200 psi; temperatures to 200°F; available in bronze, steel, 316 stainless, monel metal or aluminum. Priced from $300 to $1300.

Supplier: **Ronningen-Petter Co., 6870 East YZ Ave., Vicksburg, Mich., Tel: MIdway 9-5911.**

Sample cutter

. . . for laboratory use



Applications: For cutting larger, thicker and harder laboratory samples of tissue, paper, paperboard, textiles, plastics, etc.

Advantages: Electro-hydraulic unit (Model #240-A Alfa), more powerful than hand-operated models, is adjustable to apply up to 8 tons pressure at the cutting surface. Cutter features finger-tip operation. Inexpensive Alfa sample dies make it possible to change from one size sample to another in seconds.

Supplier: **Thwing-Albert Instrument Co., Penn St. & Pulaski Ave., Philadelphia 44, Pa., Tel: GErmantown 8-5720.**

Water analyzer

. . . easy removal of components

Applications: For continuous on-stream analysis of water (i.e., boiled

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Cleaner stock . . . CENTRI-CLEANERS

Improved fiberizing of chips, higher machine speeds . . . DOUBLE REVOLVING DISC REFINERS

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Springfield, Ohio

IN CANADA: THE BAUER BROS. CO. (CANADA) LTD.
Brantford, Ontario

NEW EQUIPMENT . . .

water, condensate and effluents from demineralizers, water softeners, waste disposal treatment plants).

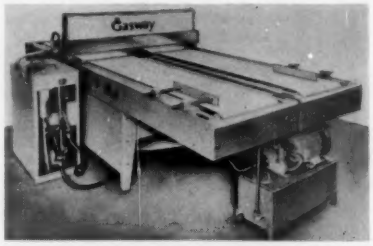
Advantages: Chemonitor duplicates continuously and automatically principles of colorimetric analysis, thus determining and recording amount of a specific component in the water. Unit can be set up to conduct single- or multiple-point analysis. Control panel, mounted on the front, is protected by a half door, making the slide-out reagent shelf, constant-temperature bath and all fuses and controls easily accessible. Mechanical timer shuts down the pump and initiates a flushing cycle at 6-hr. intervals. Colorimeter cell is flushed with sample, and after flushing instrument is automatically zeroed. (Flushing and zeroing can also be done manually.) Construction permits easy removal of any component. Blower prevents accumulation of chemical fumes.

Specifications: Typical application: Sample is piped into the instrument and mixed with reagents. When silica is present, sample turns blue. Intensity of color is then measured and measurement recorded on a recorder. When desired, recorder operates an upper-limit switch that actuates alarm system. In the zero-to-300 parts per billion silica range, Chemonitor permits detection of concentrations as low as 5 ppb with ±2 ppb accuracy.

Supplier: **Hagan Chemicals & Controls Inc. (Al Gaber), Hagan Center, Pittsburgh 30, Pa., Tel: WAlnut 2-3737 (Ext. 222).**

Curtain coater

. . . incorporates flow coating



Applications: For applying synthetics, waxes, polyethylenes and aqueous materials to paper and paperboard products.

Advantages: Precisely-metered unit is said to be well adapted to many coating types, "a highly efficient tool in finishing of packaging materials." It incorporates the flow-coating principle of passing the work piece through a continuous falling curtain of coating material. Says the manufacturer: Many types of cartons, boxes, liquid containers, frozen food packages, etc. can be coated successfully. Thickness deposited is regulated by flow rate and speed of travel through machine. Applied coating may vary from 0.5 mil to 25 mils or more. Most materials can be applied without special formulation because curtain effects simplest kind of application, an actual laying on of the material itself without rollers or other contact. Unit requires only two adjustments: pump speed and conveyor speed. Machine incorporates a portable paint system that can be removed and cleaned while another system is employed.

Specifications: Speed range is between 50 and 900 fpm, is infinitely adjustable between those limits. Kinetic Kurtain coater is available in five sizes: for coating up to 25 in. in width; for up to 40 in. in width; for up to 56 in. in width; for up to 66 in. in width, and for . . . **turn to p. 76**

Carthage-Norman Chippers Give You Greater Yield of Higher Strength Pulp

With its unique helicoidal disc segments and variable-bevel knives, the Carthage-Norman Chipper produces the highest percentage of "to size" chips. There are fewer compressed or bruised chips and ½% to 1% less sawdust — a feature which can pay for the chipper in one year. Knives wear longer — cost less. Heavy-duty construction results in exceptionally low maintenance costs.

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CARTHAGE, N. Y.

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SPECIFICALLY DESIGNED FOR HIGH IMPACT AND TENSILE LOADS, DURABILITY, AND EASY MAINTENANCE!

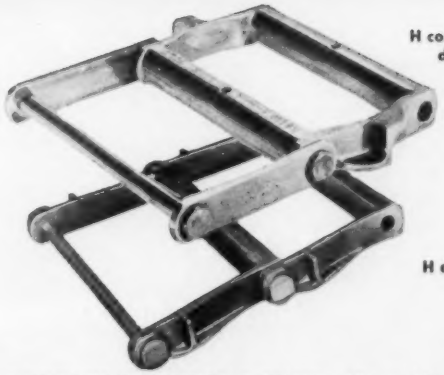
LINK-BELT'S WS welded steel drag chain

Link-Belt WS steel drag chain consists of tough, all-steel, welded offset links connected by large-diameter steel pins. The materials, design and construction of these chains provide exceptional resistance to impact loading and wear.

Gives you low operating costs

The favorable strength-weight ratio and unique design of WS drag chain, with welded steel construction and full length bearing area for pins, result in low conveyor operating costs and easy handling during installation, replacement, or repair. Trough wear is reduced because of the lower chain weight. Symmetrical design, with identical sliding area top and bottom, permits turning the chain over for added service life. Special attachments can be welded to WS steel chain and reworking in the field is easily accomplished if the links are distorted or damaged in operation.

For complete information on Link-Belt's new WS welded steel drag chain, write for Folder 2772. Or call the Link-Belt office or authorized stock-carrying distributor nearest you. You'll find them listed in the yellow pages of your telephone directory under CHAINS.



H combination drag chain

H drag chain

OTHER DEPENDABLE LINK-BELT DRAG CHAINS... H combination drag chains with malleable or Promal (pearlitic malleable) center links connected by heavy steel sidebars with large diameter steel pins, and the H drag chains with malleable or Promal offset links having cast lugs to prevent rotation of the steel pins in the sidebars. All three drag chains operate on the same sprockets.

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LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Warehouses, District Sales Offices and Stock Carrying Distributors in All Principal Cities. Export Office, New York 7; Australia, Marrickville (Sydney); Brazil, Sao Paulo; Canada, Scarboro (Toronto 13); South Africa, Springs. Representatives Throughout the World. 19,441

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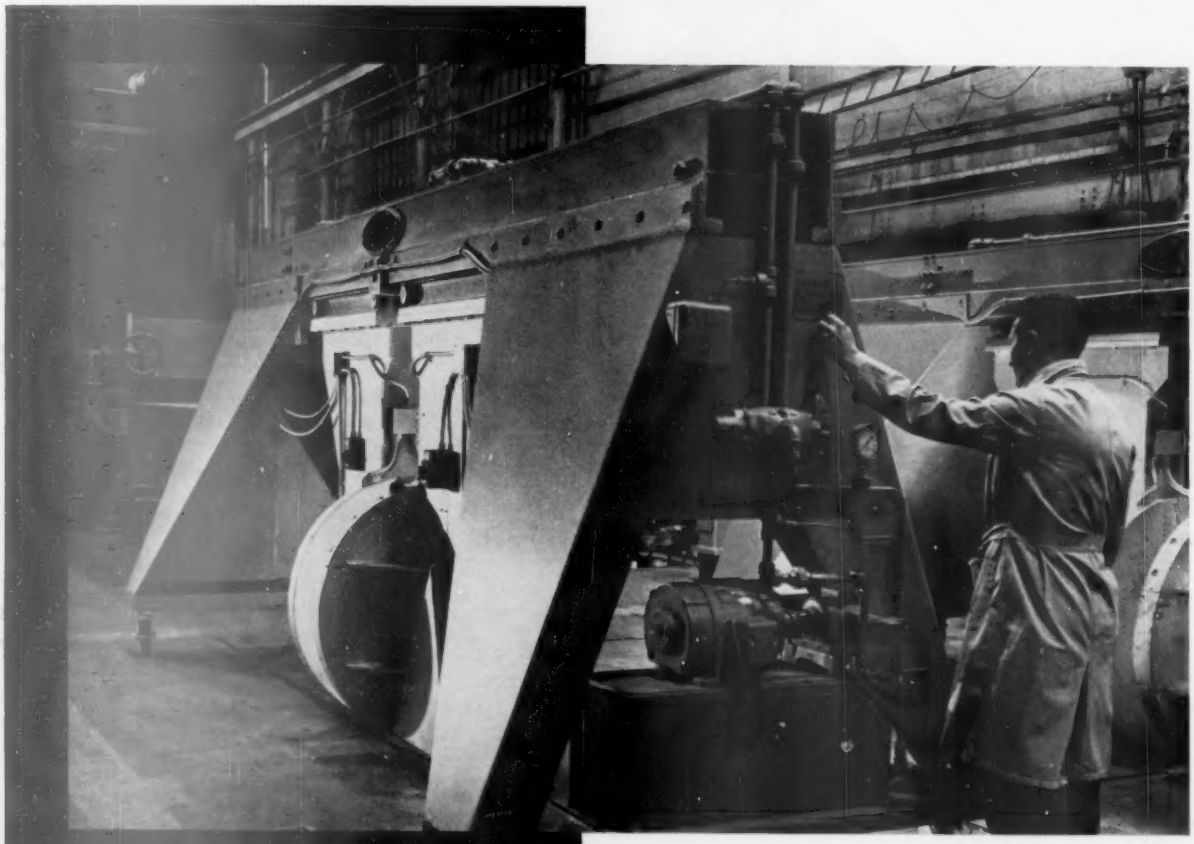
our business to develop equipment
to help you **REDUCE YOUR COSTS**



Newly designed Valley Portable Roll Header with electrically heated heads. This mobile unit can "head" rolls at any number of locations, thus saving costly roll handling and moving operations. This is another example of a specially designed and engineered piece of equipment to meet the requirements of a customer and to aid in reducing costs.

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finishing departments,
as throughout the paper mill,
it's equipment by. . . .

VALLEY

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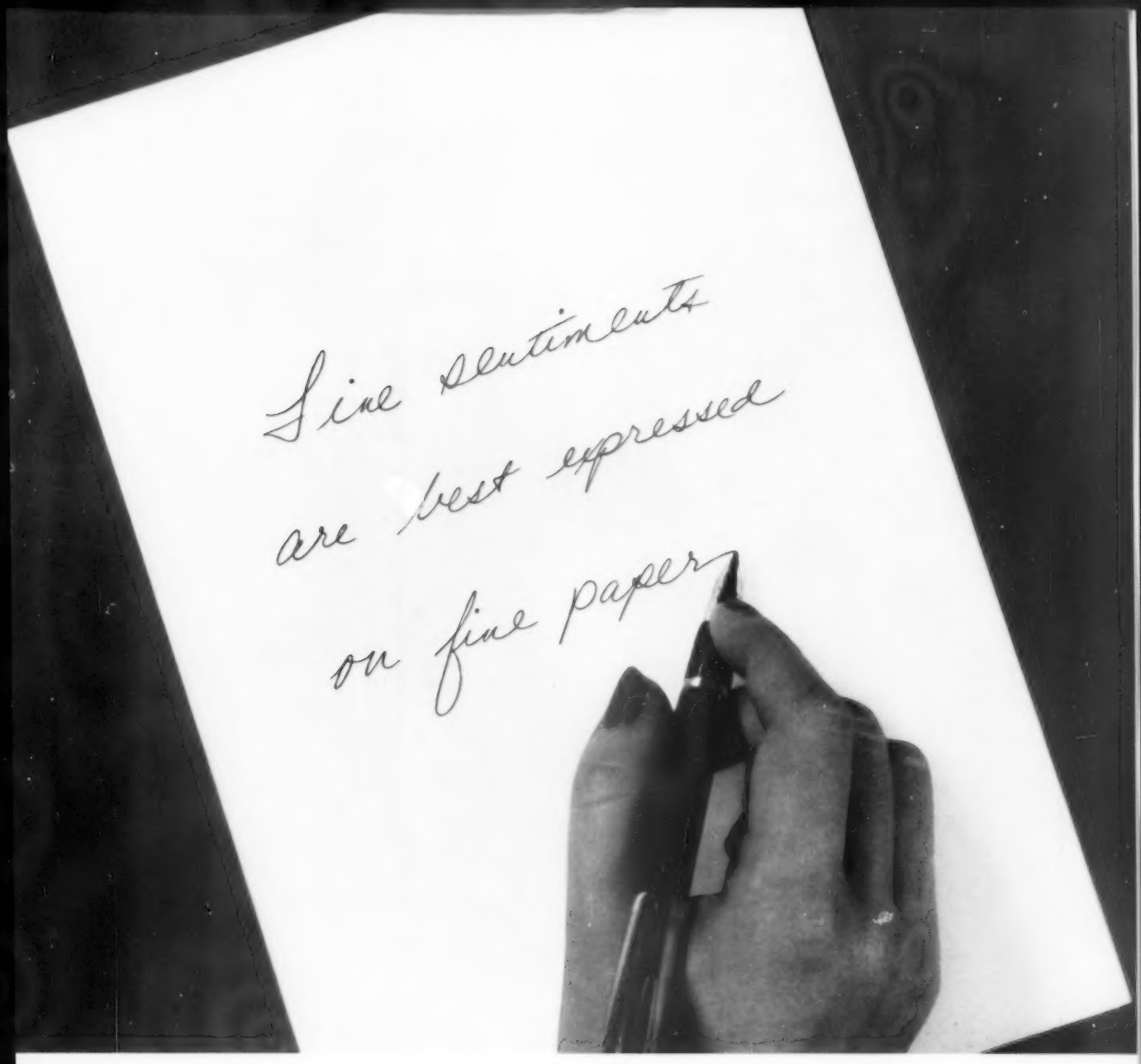
Appleton, Wisconsin

West Coast Representative: E. A. Berry, P.O. Box 958, Longview, Washington
Canadian Representative: Pulp and Paper Mill Association Ltd., P.O. Box 850, Station "O", Montreal 9, Quebec



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NEW EQUIPMENT . . .

starts on p. 72 . . . up to 86 in. in width. Machine incorporates a 3-hp explosion-proof 220-440 volt, three-phase 60-cycle motor as standard. Special electrical specifications if required. Conveyor lengths are 7-ft. infeed and 5-ft. outfeed. Paint reservoir capacity: 15 gal.

Supplier: **Gasway Corp., 6463 N. Ravenswood Ave., Chicago 26, Ill., Tel: SHeldrake 3-1414.**

Chip conveyor belt
. . . fall-back reduced

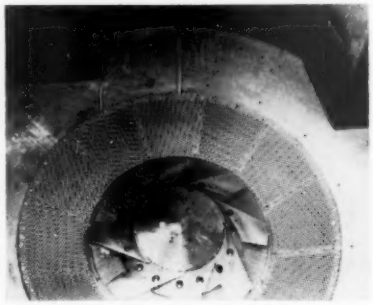
Applications: Designed primarily for wood chip-handling.

Advantages: Belt is said to carry materials up steeper inclines than its predecessors. Molded ridges reduce fall-back as material is carried up incline. Because sliding is reduced, capacity is actually increased.

Specifications: Ridges are in herringbone design pointed in direction of travel. Ridgelock belt can be constructed of cotton, Nyfil or rayon reinforcements with a rubber cover compounded for the type of material handled.

Supplier: **B. F. Goodrich Industrial Products Co. (div. of B. F. Goodrich Co.), Akron, Ohio.**

Hydrapulper rotor
. . . from long research



Applications: To increase defibering efficiency.

Advantages: Vokes Rotor is standard equipment on all new Black-Clawson Hydrapulpers, is available as conversion unit for some existing models. Handsheets obtained with Vokes Rotor-equipped pilot Hydrapulper showed superior results, ranging between 60 and 100 on Shartle Defibering Standards scale. Unit is said to provide optimum performance for split rolls, slab, sheet-trim broke, bale and bulk furnishes, wet strength, as well as in blending mixing. Full consistency range provides for batch or continuous operation. Extraction and dump openings are non-plugging.

Specifications: Rotor body is solid one-piece casting with defibering plates attached by heavy cap screws. Bedplate is precision casting of high wear-resistant stainless alloys, with which defibering blades co-act in attritioning action. Extractor slots or round holes can be provided for continuous extraction via direct connection to dump pump. Complete dumping of all defibered stock on batch operating basis is assured.

Supplier: **Black-Clawson Co. (Shartle div.), Middletown, Ohio.**

Welded Steel Tubing

Four-page folder describes tubing available as fabricated or semi-fabricated items in five steels. Tubing is made from hot- and cold-rolled steel; two grades of aluminized steel, and Zincgrip steel, a hot-dip zinc-coated product. Fabrication operations described, as well as advantages offered by fabricated welded tubing. For copy of Folder P. O. 6759, write Product Information Service, Armco Steel Corp., Middletown, Ohio.

ANOTHER BABCOCK & WILCOX
recovery unit at
FIBREBOARD PAPER PRODUCTS CORP.
New San Joaquin Pulp and Board Mill, Antioch, Calif.
furnished by
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Contractors for Steam and Recovery Plant Equipment for Pulp and Paper Industries
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Longer life is built into Butterworth Calender Rolls. Every Butterworth roll is made to specification by a special process which insures extra hours on the stack and the very finest finishes.

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We offer the Pulp Industry a dependable source of highest purity Sulfur Dioxide.

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612-629 Grant Building, Atlanta 3, Georgia

STRICTLY PERSONAL . . .

starts on p. 29 . . . title better describes the paperboard folding cartons, containers and tubes made and, of course, presents no pronunciation problems." . . . **Robert H. Christy** is named senior vice pres. of Downing Box Co., Milwaukee, Wis., subsidiary of Longview Fibre Co., Longview, Wash. New exec. vice pres. is **B. Philip Bowen**, and **James F. McDowell** becomes sales vice pres. and a director. . . .

Dr. Roy Powell Whitney, vice president of the Institute of Paper Chemistry, Appleton, Wis., is elected chairman of the Committee on Paper Base Materials, National Academy of Sciences-National Research Council, Washington, D. C. The committee is one of several within an Advisory Board on Quartermaster Research & Development. Each is responsible for supplying scientific and technical advice to the U. S. Army Quartermaster & Engineering Command, Natick, Mass. . . . **Leonard Pasek,** special asst. to the board chairman of Kimberly-Clark Corp., Neenah, Wis., served on a panel at the National Conference on Water Pollution in the United States, Washington, D. C. in December.

Taking Felts For GRANTED?

√ To make your operating personnel fully aware of the highly specialized techniques used in fabricating papermakers' felts. . . . . .

√ To complete your educational or training programs with a graphic audio-visual insight into felt-making. . . . . .

√ To see how our felt service and engineering staff can benefit your operation. . . . . .

"Keep 'em Rolling!"

Lockport Felt's non-technical portrayal of the inside story of felts . . . a 22 minute color, sound motion picture . . . in your plant. Write us, or ask your Lockport Felt Sales Representative.

LOCKPORT FELTS

LOCKPORT FELT COMPANY, Inc.

Serving the Papermakers Since 1891

NEWFANE, N. Y. STARKVILLE, MISS.

A. Rodney Boren, a vice pres. of The Mead Corp., becomes first full-time president of Fourdrinier Kraft Board Institute. He succeeds **George B. Gibson,** exec. director for 18 years.

Dr. Donald H. Grangaard has been named senior research associate, Kimberly-Clark Corp. He is an authority in lignin chemistry, and is a graduate of U. of North Dakota and Ohio State U.

Donald J. Schneider, project engineer, has been made group leader, product development and technical service, at Mosinee Paper Mills Co., Mosinee, Wis. . . . **Clayton Russell** becomes director of quality control for Allied Paper Corp. A 13-year veteran in Allied supervisory positions, he will have over-all direction at the King, Monarch and Bryant mills in Kalamazoo. . . . A. E. Staley Mfg. Co. reports two promotions in the paper industry sales dept.: **Herbert L. Roszell Jr.,** technical asst. in the corn div., becomes mgr. of dextrin and adhesive products; **Thomas C. Garren,** technical asst. in industrial sales, is named sales service supervisor. . . .

East

Lawrence B. Kelley transfers to staff of **Lamar M. Fearing,** executive vice pres., International Paper Co. He was pres., A. M. Collins Mfg. Co. in 1955 when IP purchased it.

Richard L. Hawkes is assistant to **Ralph H. Cutting,** president, Keyes Fibre Co. He has been with Keyes since 1946, is a b.s. graduate in mechanical engineering from Yale U.

James W. Field, formerly with TAPPI, has joined the staff of the Packaging Institute as technical and field service director. A Temple University graduate, Mr. Field served West Virginia Pulp and Paper Co. as a chemist before joining TAPPI.

leading manufacturer of wires for

WRITING PAPER

APPLETON WIRES

are good wires!

APPLETON WIRE WORKS Corp.

PLANTS AT APPLETON, WIS., AND MONTGOMERY, ALA.
INTERNATIONAL WIRE WORKS, MENASHA, WIS. AN AFFILIATED COMPANY

2 New RIDGID Tubing Cutters

Give you Grooved Rollers for close flare cut-offs... no waste! Also, Enclosed Feed Mechanism • Spare Cutter Wheel in Handle •

RIDGID No. 205 Tubing Cutter

Time-Saving, Slide-to-Size 1/8" to 2 3/8" O.D. Capacity

Made of lightweight, high-strength cast aluminum alloy, you'll find these new RIDGID Tubing Cutters extra handy. Slight push on handle of large-size-range RIDGID No. 205 snugs cutter wheel against tubing . . . locks it in position until released. Feed screw fully protected and enclosed . . . always feeds into tube with easy handle turn . . . can't jam with chips or dirt. Wheel gives quick, clean cuts of copper, brass, aluminum tubing and thin-wall conduit . . . no burr. Grooved rollers give easy flare cut-offs without tubing waste. Tubing always turns freely on 2 of 4 Rollers. Rollers smooth tubing ready for soldering. Fold-in reamer always handy. Spare cutter wheel in handle. Wheel for plastic and aluminum pipe available for No. 205 only.

Conform to Fed. Spec. GGG-C-771b Type II—Class I—enclosed feed mechanism

RIDGID No. 105 Tubing Cutter

Protected Feed Screw
Always Easy-Turning
1/8" to 1 1/8" O.D. Capacity

To save time and tubing, order these new RIDGID Tubing Cutters today!
Your Supply House has them!

RIDGID®
The Ridge Tool Company, Elyria, Ohio, U.S.A.

Dickey

Merz

Two In New Posts for Continental Can Co.

Roger C. Dickey assumes the newly-created position of equipment development and carton design in the Boxboard & Folding Carton div. He joined the pre-merger Robert Gair Co. in 1953 as mechanical packaging engineer. Prior to his present appointment he was mgr. of sales research and promotion.

At the same time, **Dr. Edmund H. Merz** becomes director of the Materials Formulation & Evaluation dept. in the General Packaging Research & Development div. He will head work on surface coatings, inks, adhesives, polymer formulation and processing, as well as analytical services in accordance with needs of six product divisions. Dr. Merz was formerly in the Plastics div. of Monsato Chemical Co.

Frederick T. Coker Jr. has been elected to new post of executive vice president, Rice Barton Corp. He has extensive experience in paper machinery and other manufacturing industries. Prior to joining Rice Barton, he was an associate partner with Booz, Allen & Hamilton. He has also been associated with Yale and Towne and M. L. Lowenstein & Sons. . . . **Alfred E. Beechaer** has joined the research and development dept. of St. Regis Paper Co. in engineering physics laboratories at East Providence, R.I.

Murray

Fitzgerald

Promoted by Brown Co.

Reginald O. Murray, asst. production supt. since 1954, becomes production supt. at the Cascade mill, Berlin, N.H. He has been with the firm since 1925. He is succeeded by **J. Edward Fitzgerald**, former machine room supervisor. Mr. Fitzgerald is a company veteran of 42

"Air Lift" Provides Flexible Chip Handling at Thurso, Que.

The chips really fly at Thurso Pulp & Paper Company, Thurso, Quebec. They travel by air, at rates which vary from 40 to 60 cunits (200 cu. ft.) per hour.

A new Rader Pneumatic chip handling installation, completed this year, gives the plant operators great flexibility in chip movement and storage.

Chips can be moved pneumatically to outside storage from any one of three sources. Rail cars on the spur track (right foreground in photo) are unloaded by flex-pipe, with the chips being directed by blower either to the hardwood pile (in photo), or the softwood pile, to the right.

The mill's own woodroom, the large building at the left, also produces chips which can be blown to either pile at a rate of 60 cunits per hour. The third source is a nearby sawmill, out of the photo to the right, from which a Rader system blows chips to the outside storage piles.

Adding to the system's flexibility is a second blower line from the woodroom, which can be fed either into the large silo (lower left), or valved directly to the storage piles.

For reclaiming chips, a large pit with surface grate is provided between the two storage piles. A front-end loader pushes chips into the pit, from where it is propelled by another blower directly to the silo. This system operates at 40 cunits per hour. From the silo, chips go to pulp mill by mechanical conveyor.

Write to Rader for information on pneumatic handling of chips.

RADER PNEUMATICS, Inc.

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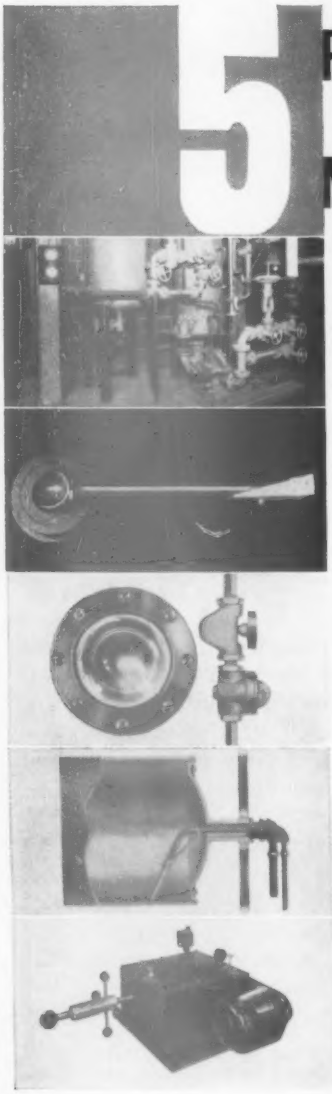
BOSTON · EUREKA, CAL. · LOCKPORT, ILL. · LOS ANGELES
MEMPHIS · SYRACUSE · VANCOUVER, B. C. · PEMBROKE, ONTARIO

STRICTLY PERSONAL . . .

South

The Southern Exposure: Staff is just about complete at Tennessee River Pulp and Paper Co., due to start-up its North Alabama mill shortly. Top personnel are: **R. F. Cuyle**, gen. supt.; **H. C. Carter**, plant eng.; **L. Coker**, senior eng.; **Leon Smith**, purchasing agent; **W. E. Gibbons**, wood procurement; **A. K. Dexter**, woodland mgr.; **H. O. Levic**, chief electrician; **Tom Terry**, maint. supt.; **John Baumgartner**, tech. supt.; **Wendell Vickery**, land supt.; **G. L. Hollimon**, pulp supt.; **Jim Lee**, asst. pulp supt.; **Frank Jensen**, pulp mill supt.; **J. H. Morris**, asst. paper mill supt.; **Amon Lindsey**, inst. supt.; **Harry Wilson**, chief acct.; **George Griffith**, contractor; **D. R. Pichon**, Ind. Relations; **N. W. Sentell**, asst. woodlands mgr.

Dr. **Robert L. Stephens** has been appointed a research fellow. He will be responsible for research on tall oil products. He has been an associate prof. of chemistry at North Carolina State, will now work at U.S. Dept. of Agriculture's lab at Olustee, Fla. . . . **Burton W. Runkel**, asst. gen. mgr. of International Paper's Wood Preserving Div., has been named gen. mgr. He replaces **C. V. Holbrook**, who will continue as the company's Southern Lumber Div. mgr. and will also act as advisory consultant in the Wood Preserving Div. . . . Chesapeake Corp. has appointed **James T. Ankrum**, asst. to the gen. sales mgr., **Miss Elizabeth S. Gray**, mgr. of pulp sales, and **Clarence Topping**, mgr. of board and paper sales. Miss Gray will also continue as the company's secretary.



5 PROFIT MAKERS for the MODERN PAPER MILL

Ross Midwest Fulton Dryer Drainage Systems

Pays for itself in steam savings alone. Also increases production from 10% to 30% and improves quality of the sheet.

The Cowie Scraper

A proven condensate removal device for rotating dryers. Condensate film is reduced to a minimum, higher heat transfer, lower evacuation differentials, lower steam consumption.

Ross Midwest Ball Sight-Flow Indicators

Self-cleaning, front and side visibility, may be installed either vertically or horizontally, you know what's going on inside the dryer.

Ross Midwest Auto-Flex Syphon

The most dependable syphon, fits any syphon type dryer, always maintains proper clearance, no adjustments, minimum maintenance.

Hydroscillators for Rewinders

Eliminates wrinkles and hard and soft spots on the roll. Here's the key to less loss at the finished end.

Write today for more information on these 5 ROSS MIDWEST FULTON *Profit Makers*

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A Division of Midland-Ross Corporation
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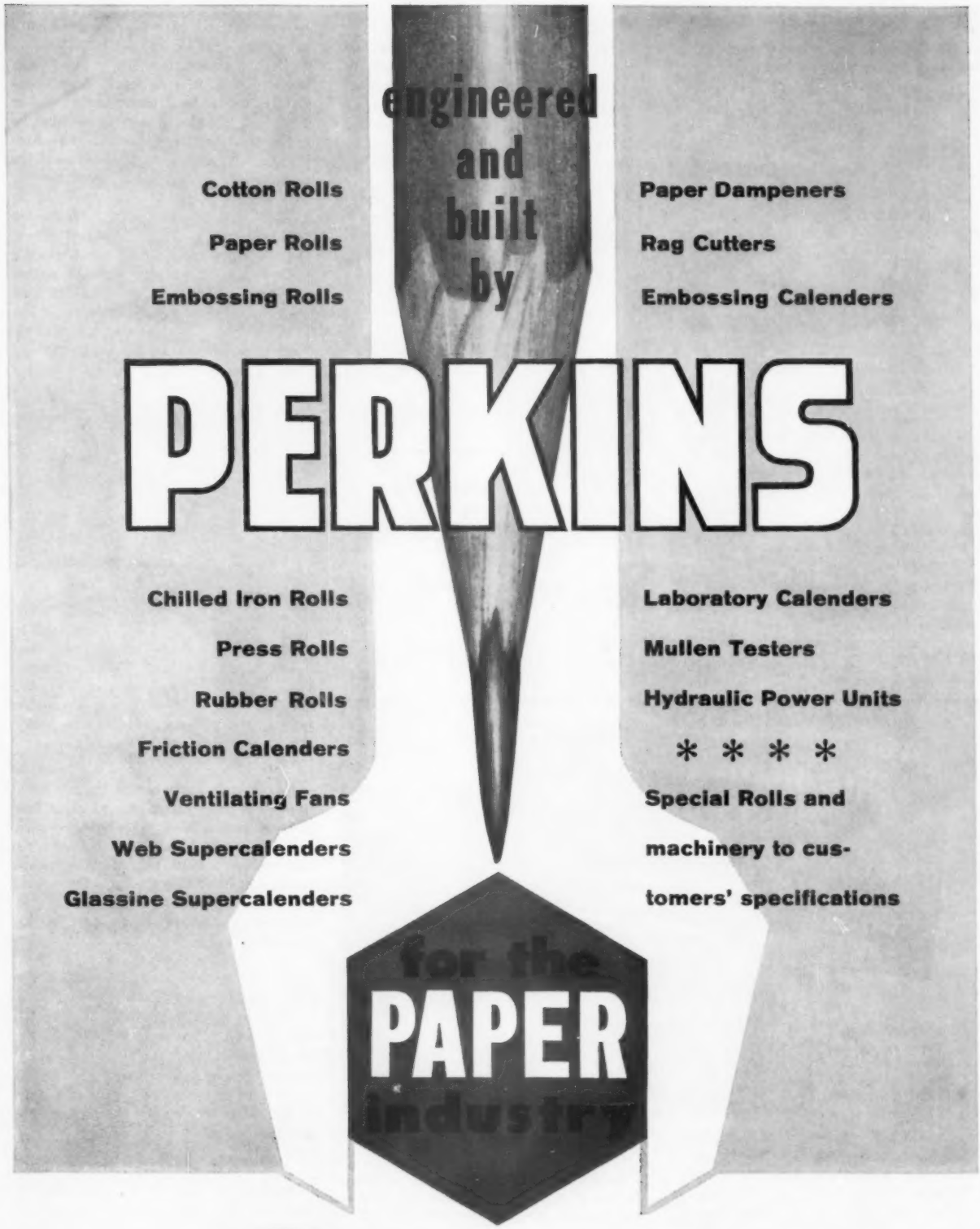
Robert O. Oney is now chief inspector at The Mead Corp's. Kingsport division, succeeding **J. E. Black**, who has retired because of ill health.

Marcy B. Newell, 54, mill process engineer, Ecusta Paper operations of the Packaging Division of Olin Mathieson at Pisgah Forest, N.C., died January in a Durham, N.C., hospital.

Union Bag-Camp's magazine, The Digester, recently reran a picture which probably brought back happy memories to its Savannah dist. sales mgr., **John Butler**. The picture was taken back in 1940 when he was star halfback for the University of Tennessee and the Vols appeared opposite Southern Cal. in the Rose Bowl. John is getting kissed on each cheek—on the left by actress Florence Rice and the right by none other than Lana Turner . . . and speaking of football, Georgia Tech's former All-American **Leon Hardeman**, a halfback on the 1952 squad, is now sales mgr. of Owens-Illinois' Atlanta Paper Products Div. plant.

R. J. Korstain has been appointed gen. maintenance supt. at Ecusta Div. of Olin Mathieson in Pisgah Forest, N.C., and **Doyle Moss** is now asst. mech. supt. . . . on the same scene, safety supervisor **H. E. Newbury** was recently elected regional representative, central section, of the pulp and paper section of the National Safety Council.

While we're on safety, congratulations are in order for Rayonier's Jesup, Ga., div. which recently won the Associated Industries of Georgia safety award for passing the one million accident free man-hour record . . . **Jack Mulholland**, longtime sales mgr. of Crossett Paper Mills, has left to accept a position with another paper firm (Packaging Corp. of America). Crossett's new sales mgr. is



THE WORLD'S LARGEST MANUFACTURERS OF CALENDER ROLLS

B. F. PERKINS & SON, INC.

HOLYOKE
MASSACHUSETTS

eight-year Crossett veteran **J. W. Taylor.** . . . William A. Saums has joined Crossett Co. as a research chemist in the research div.

Chester Landes Named to Forestry Staff, N.C. State

"Chet" comes to the North Carolina school as asst. professor of pulp and paper technology in the Robertson laboratory. Professor Landes holds more than 25 patents in the paper and chemical fields and has held positions with Mead Corp., American Cyanamid and Wica Chemicals.

Brenton S. Halsey is now director of research and development, heading up technical division of Albermarle Paper Mfg. Co. He's a grad of the U. of Virginia in chem engineering, joined Albermarle in 1951, spent a year at Institute of Paper Chemistry as a special student . . . **Robert C. Williams** steps up as mgr. of pulp, paper and converting research in the technical div. He received his m.e. degree at U. of Cincinnati and master of b.a. at Xavier U. He was also a special student at the Institute and took the graphic arts course at Rochester Institute of Technology.

Richard L. Betts has been named mill mgr., Bowaters Carolina Corp. He has been with Champion Paper & Fibre Co. for 23 years. . . . **Jack E. Chinn** has joined Bowaters as asst. paper mill mgr. He was formerly technical supt., Consolidated Water Power & Paper Co., at Wisconsin Rapids, Wis.—William F. Diehl, Jr.

Pacific

E. Paul Duncan, responsible for 11 West Coast engineering-service operations of Hooker Chemical Corp. since 1956 as technical service supervisor, joins pulp-paperboard div. of Weyerhaeuser, Co., Tacoma, Wash. According to **Roger Derby,** mgr. board sales for Weyerhaeuser, Mr. Duncan will undergo an intensive orientation program at the company's western and midwestern paperboard and converting plants before taking on West Coast sales activities . . . **Sydney Hagenson,** formerly of plant engineering staff at Publishers' Paper Co., Oregon City, Ore., joins Alaska Lumber & Pulp Co., Sitka, Alaska as assistant to plant engr. **Art Dammann . . . Phil McDonald** advances from pulp mill foreman to pulp mill mgr. at Diamond National's Red Bluff, Calif. plant as successor to **J. C. Benny** who resigned . . . **T. Robert Sheldon,** woodlands mgr., West Coast Div. of Scott Paper Co., Everett, Wash., takes on duties formerly carried on by **Henry Dennis** (who retired in 1958 as asst. vice pres.) in the operation of Scott's Canadian Woodland Operations in B.C. and Mountain Tree Farm in Wash. state . . .

Rocky Lindell, finishing room consultant, Seattle, Wash., has been engaged by The Clark-Aiken Co. to represent the firm on West Coast as project engineer. Consulting continues to be his prime field.

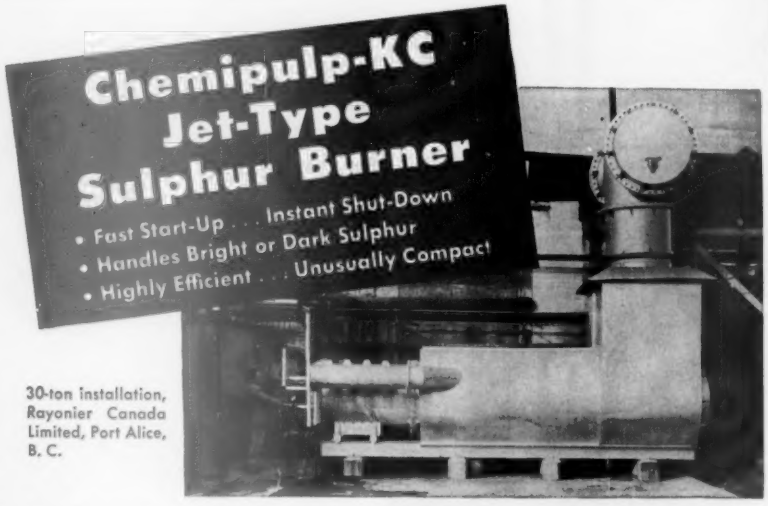
Edward Rauh, formerly handling Colton Chemical Co. (div. Air Reduction Co.) synthetic resins sales in Midwest, transfers to Los Angeles with offices at 3409 Medford Street.

John Rusch, instrument engr. at Alaska Lumber & Pulp Co., Sitka, resigned this position and moved to Seattle—because of his son's health—and is now associated with Rubens & Pratt, consulting engineering firm. **Loran Hunter,** formerly of engineering dept. of Ketchikan Pulp Co., becomes instrument engr. at Alaska Lumber & Pulp.

Henry L. Stoltz, mill supt. of R-W Paper Co., Longview, Wash. takes office in May as 3rd vice chmn. Pacific PIMA. In glassine-greaseproof industry since joining Rhinelander in 1938, with R-W mill since 1955.

Stephen D. Bechtel Jr. was elected president of Bechtel Corp., international engineering-construction firm headquartered at San Francisco. . . . **L. O. Reisinger,** kraft personnel mgr., promoted to employee services administrator at St. Regis Paper Co., Tacoma, Wash. . . .

Promoted at Crown Z's Camas, Wash. mill—**Lee A. Kelson,** from tech. asst. to paper mill supt.-tissue, to shift foreman


Chemipulp-KC
Jet-Type
Sulphur Burner
• Fast Start-Up . . . Instant Shut-Down
• Handles Bright or Dark Sulphur
• Highly Efficient . . . Unusually Compact

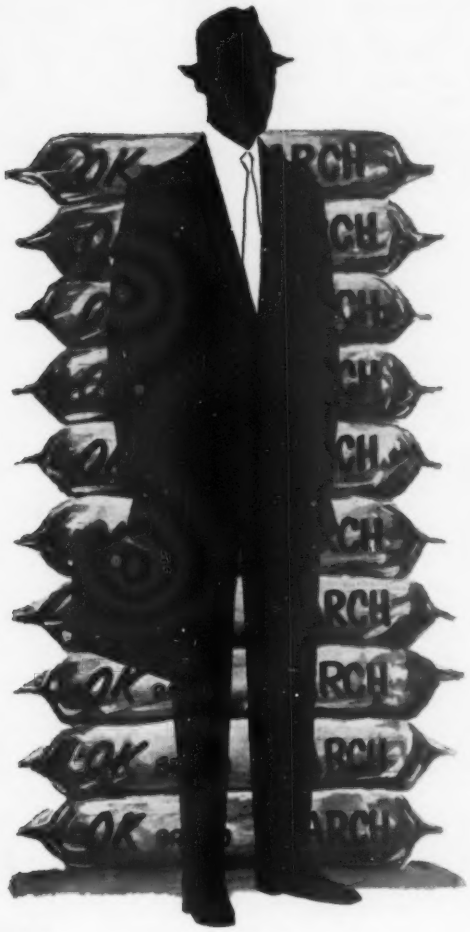
30-ton installation, Rayonier Canada Limited, Port Alice, B. C.

In the Chemipulp-KC Burner, molten sulphur is sprayed into the burner as a fine mist; heated secondary air is then introduced in several stages, resulting in clean, efficient burning. The burner quickly reaches its operating temperature of about 2400°F., minimizing production of SO_3. Operates efficiently at all SO_2 concentrations between 12% and 18½%. At 2100°F, bitumen in dark sulphur is completely burned.

Available in a range of sizes up to 50 tons of sulphur per day and each size will produce SO_2 gas efficiently through a wide operating range. Compact design and flexibility of layout permit installation in limited space.

Write for Bulletin 100

Chemipulp Process Inc. Woolworth Building, Watertown, N.Y.
Associated with Chemipulp Process Ltd., 253 Ontario St., Kingston, Ontario
Pacific Coast: A. H. Lundberg, Inc., P. O. Box 186, Mercer Island, Wash.
Lundberg-Ahlen Equipment Ltd., 779 W. Broadway, Vancouver 10, B. C.



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KEOGEL Pregelatinized—ready to use—beater starch.

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KEOCLORS Oxidized starches—complete line for sizing and coating adhesive application.

KEOGUM A new line of corn starch derivatives for sizing and coating adhesive application.

KEOFILMS Economical—controlled viscosity thinboiling starches for special sizing applications.

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Mistakes are costly. That's why you'll want to rely on Hubinger products and field service. For over three-quarters of a century, we've been developing, testing, and manufacturing starches and adhesives—always looking for new and better products. And, these products are serviced by trained field personnel, men who can help you solve the most complicated starch and adhesive problems. If your mill needs new starch products to meet special specifications, let our nearby Hubinger paper-starch technical service representative help you. You can depend on him—and Hubinger products—to meet your changing needs and do so economically.
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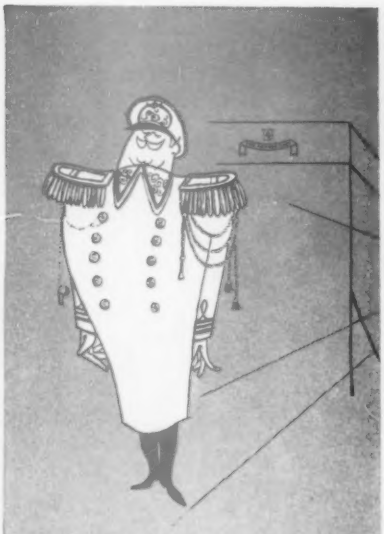

Pompous?

OH, NO SIR! PROUD!
Proud to be associated with New York's new, elegant Dryden-East. The decor is discreetly lavish. Rooms are extraordinarily large, luxuriously appointed.

Naturally, every room has individually controlled air conditioning, color television, FM radio, extension phone in bathroom, its own private cocktail bar. And may I venture to say, sir, the personalized service is unparalleled.

Welcome, sir—and madame—to

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Hotel
59th Street, just East of Lexington Ave., New York 16

Tariff from $15 to $60 daily.

Several executive suites suitable for large companies as a year round city apartment.

Robert Sarason, *General Manager*

Teletype NY-1-4295

STRICTLY PERSONAL . . .

for paper machines-wrap; **Ed D. Frazer,** tech. asst. to paper mill supt.-wrap, to tech asst. to paper mill supt.-tissue; **Roy Goulet,** project engr.-paper machines & finishing, to tech. asst. to paper mill supt.-wrap . . .

Jack F. Robertson has been appointed gen. safety supervisor of Crown Zellerbach's U.S. timber and manufacturing operations as successor to the late George A. LaHusen.

Crown Z promotes **Wilfred Rosen,** mgr. of headquarters marketing services staff since 1958, to mgr.—marketing administration; **Fred H. Fleischmann,** of headquarters marketing services staff, is appointed to Mr. Rosen's previous position.

Californians Revive Cunningham Prize

Papermakers & Associates of Southern California has revived the long-dormant Cunningham Award, an annual three-prize competition for the best technical papers on subjects connected with papermaking.

The contest is for those associated with PASC member companies and brings the winners a first prize of $100, second of $50 and third of $25. The winner is expected to deliver his paper personally at the PASC May business meeting.

Deadline for entries is the third Tuesday in March. **F. Russell Gagnier** of Nopco Chemical Co. is chairman of the awards committee in charge of the competition.

The Cunningham Award was originally offered to stimulate creative thinking in the paper industry.

Canada

J. G. Welsh has been appointed chief engineer, **Dr. C. Marchant** as manager of Howard Smith Paper Mill's new product development division, and **O. A. Hutton** has been named manager of the company's industrial relations. All three hold similar positions with Dominion Tar & Chemical Co., an affiliate of Howard Smith.

Henrik Vougt, vice pres., Powell River-Alberni Sales Corp. in Los Angeles, Calif., has been honored by the Swedish government with the insignia of Knight of the Royal Order of Vasa, first class. The award is in recognition of his services in the Vasa Order of America, largest Swedish fraternal organization on this continent, of which he is grand master.

N. R. Williams has been appointed assistant supt., Millertown division, Anglo-Newfoundland Development Co., and **F. C. Budgell** has been given a similar position with the Badger division, according to woods mgr. **W. J. Johnston.**

Norbert W. Marcus, Jr., vice pres. in charge of marketing for Westminster Paper Co. since 1958, is now director of marketing services, Scott Paper Co. He had been with the Scott-Westminster group since 1950

Thomas A. Hendry, Sr., 73, former gen. sales mgr., Abitibi Power & Paper Co., died recently while in retirement in Florida. He was a native of Kingston, Ont., and started his career in the industry with Dill & Collins in Philadelphia. Until joining Abitibi in 1947 he was with Mead Sales Co. and Fraser Paper Ltd.

George Sanders, assistant to the supt., traffic department, Anglo-Newfoundland Development Co., was killed in a traffic accident near Bishop's Falls, Nfd. His wife was also injured in the accident.

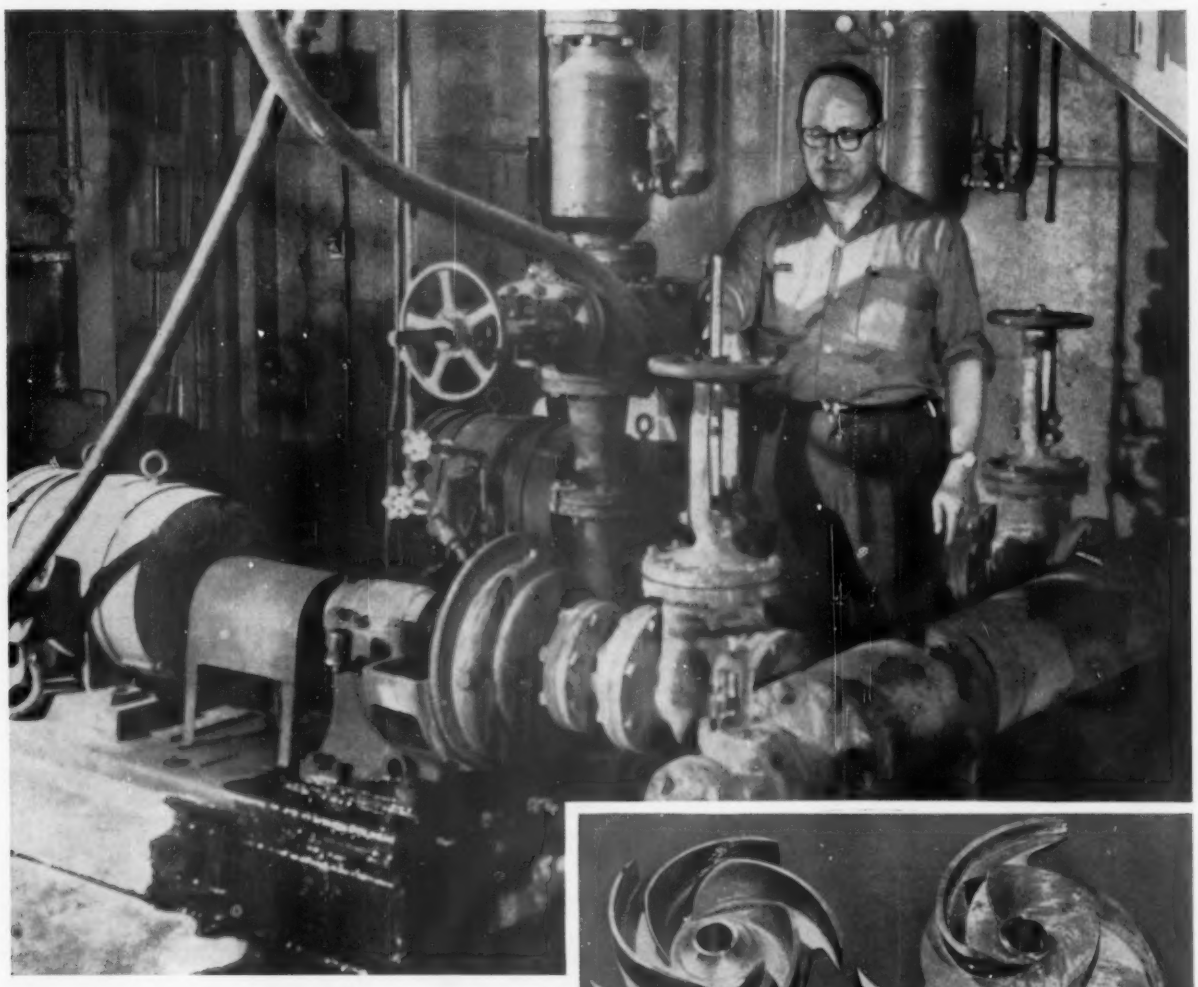
Pearce W. Budgell, former supt., Terra Nova division, Anglo Newfoundland Development Co., died recently at Kingston, Ont., four years after his retirement.

Charles H. Claypool is now mill mgr., Nova Scotia Pulp, Ltd. at Port Hawkesbury, Cape Breton Island N. S. He was manager of Oxford Miami Div., Oxford Paper, the past 6 years.

Denis J. Rowse has been appointed asst. operating supt. for Columbia Cellulose Co.'s high alpha pulp mill.

W. D. Moffatt, former director of sales, E. B. Eddy Co., Hull, Que., has succeeded **R. F. Caldwell** as president. Mr. Caldwell retired after 43 years with the company.

J. R. Nixon has been named gen. sales mgr., Howard Smith Paper Mills and will continue to make his headquarters in Toronto, while **Philip Sanford** has been appointed assistant gen. sales mgr., at Toronto. These appointments followed



Recovering green liquor without downtime, these pumps are equipped with long-lasting cast nickel stainless steel impellers. They move hot caustic liquor with specific gravity of 1.16 at 350 gpm, 1755 rpm.

Cast nickel stainless impellers show no corrosion, erosion or wear after 9 yrs. pulp liquor service

These impellers *look* new—yet, they've been pumping pulp liquor for nine years at The Mead Corporation's Kingsport Division, Kingsport, Tenn.

The reason? They are cast of Type CF-8M* alloy containing 19% chromium, 10% nickel, 2.5% molybdenum, and a maximum of 0.08% carbon. Impellers cast of this nickel-containing alloy can withstand the daily attacks of white, black and green liquors in alkali-recovery operations. CF-8M alloy puts a stop to corrosion, erosion and wear.

Family of stainless casting alloys useful to pulp and paper industry. Type CF-8M is just one of a family of austenitic nickel stainless steel casting alloys with properties ideally suited for use in the pulp and paper industry. These alloys offer superior resistance to corrosive conditions found in sulfite and sulfate treating of wood pulp, and provide high resistance to acid and caustic environments. These nickel-containing alloys assure better protection of product purity and longer equipment life.

Which nickel stainless casting alloy is best for your operations? The informative 72-page booklet, "Heat Resistant Castings, Corrosion Resistant Castings...Their Engineering Properties and Applications", contains complete details about this family of cast nickel stainless alloys. Write for it today to find out which alloys are best suited to *your* operations.

*ACI designation

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INCO NICKEL

NICKEL MAKES ALLOYS PERFORM BETTER LONGER

STRICTLY PERSONAL . . .

the merger of the pulp and sales forces of Howard Smith, Alliance Paper Mills, Canada Paper Co. and Don Valley Paper Co.

Aubrey Crabtree, chairman of the board, announces that **Alfred Lloyd Penhale,** D.Sc., D.C.L., has been named a director replacing the late Honorable David L. McLaren. Mr. Penhale is president and managing director of Asbestos Corp., Ltd. He is also a director of the Royal Bank of Canada and Woods Mfg. Co. Ltd.—Charles L. Shaw.

Pulpwood

Frank B. Folsom, asst. reg. forester, U. S. Forest Service, Portland, Ore., retires after 38 yrs. with USFS, all in the Northwest. "Throughout his career, he has vigorously applied the principles of multiple use management to national forests," according to J. **Herbert Stone,** regional forester. . . . **Robert Radcliffe,** asst. log buyer of St. Regis Paper Co., Tacoma, Wash., becomes log buyer for the Northeast area. He is responsible for log sales and purchases as well as distribution of logs among the firm's several manufacturing plants in this area.

COMPLETE SERVICE

- Design
- Construction
- Maintenance

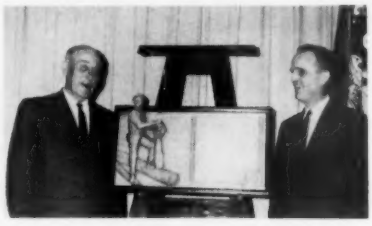
LININGS AND TILE TANKS

STEBBINS
ENGINEERING AND MANUFACTURING CO.
Watertown, N. Y.
PENSACOLA, SEATTLE, MONTREAL, VANCOUVER

Dr. Richard E. McArdle, chief, U.S. Forest Service, received the top U.S. civilian career award from former President Eisenhower. This was the coveted President's Gold Medal Award.

Two West Coast executives have been appointed to AFPI board of trustees—**Peter T. Sinclair,** exec. vice pres., Crown Zellerbach Corp., San Francisco, and **B. L. Orell,** vice pres. of Weyerhauser Co., Tacoma, Wash. AFPI officers (headed by pulp-paper executives) were re-elected for coming year: **Pres. John H. Hinman,** bd. chmn. of International Paper Co.; **Vice Pres. W. R. Adams,** president of St. Regis Paper Co.; **Vice Pres. J. D. Bronson,** asst. to pres. of Boise Cascade Corp.; **Treas. D. B. Frampton,** president of D. B. Frampton Co.; and **Scty. C. A. Gillett.**

C. W. Mattison has retired as chief of the Branch of Education, Division of Information and Education, U. S. Forest Service. A forestry graduate from Cornell U., Mattison joined the Forest Service in 1928. He expects to continue in the conservation field as a consultant and will prepare a special report on conservation education for the American Forestry Assn. He will make his home in Middle Grove, New York.



Nichols **Richen**

New award for woods operations, to be presented annually to Crown Zellerbach's Northwest logging division achieving greatest improvement in logging efficiency, pays tribute to **C. E. Nichols,** who recently retired as Northwest logging mgr. after 49 yrs. logging experience. This tribute to Mr. Nichols is in recognition of his contribution to development of modern methods and equipment according to **C. W. Richen,** mgr. fo CZ Northwest timber operations.

Allied

Solvay Lab Expansion

Major expansion will double facilities at Syracuse, N. Y. research-technical service laboratory of Allied Chemical's Solvay Process div. Occupancy scheduled for late 1961. Among special laboratories being enlarged are those for studies in corrosion; pulp and paper, and plastics. Facilities will also be increased for the technical service and market research divisions.

Reck

Hurd

Jamesbury Corp., Worcester, Mass. manufacturer of ball valves, announces two executive sales appointments: **Maxwell H. Reck,** asst. sales mgr., becomes sales mgr. and is succeeded by **W. G. (Bill) Hurd,** former district sales mgr. for the southeastern United States.

Newcomb

Printz

New VPs for Manchester

Manchester Machine Co., Middletown, Ohio, creates two new vice president positions: **Huber C. Newcomb** becomes vice pres. and sales mgr., and **Warren G. Printz** is made vice pres. and chief engineer. Mr. Newcomb was formerly mgr. of field engineering and customer service, while Mr. Printz was chief engineer.

Gardner International Corp., Pompano Beach, Fla., announces its electronic insect control equipment is now available for lease or lease purchase. Insect-O-Cutors (see PULP & PAPER, October 1960, page 106) are available in 16 models to meet all flying insect problems.

Turn to page 92

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3. TOP AND BOTTOM GUIDED BALL	√					
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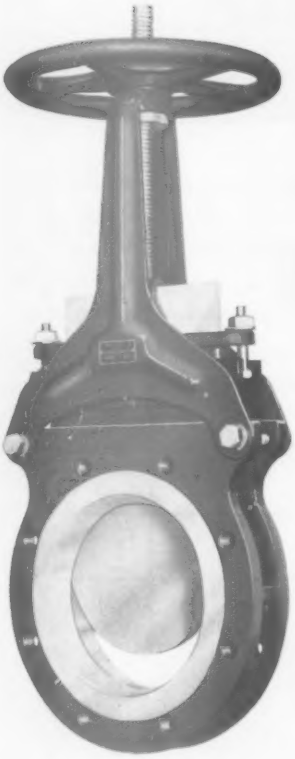

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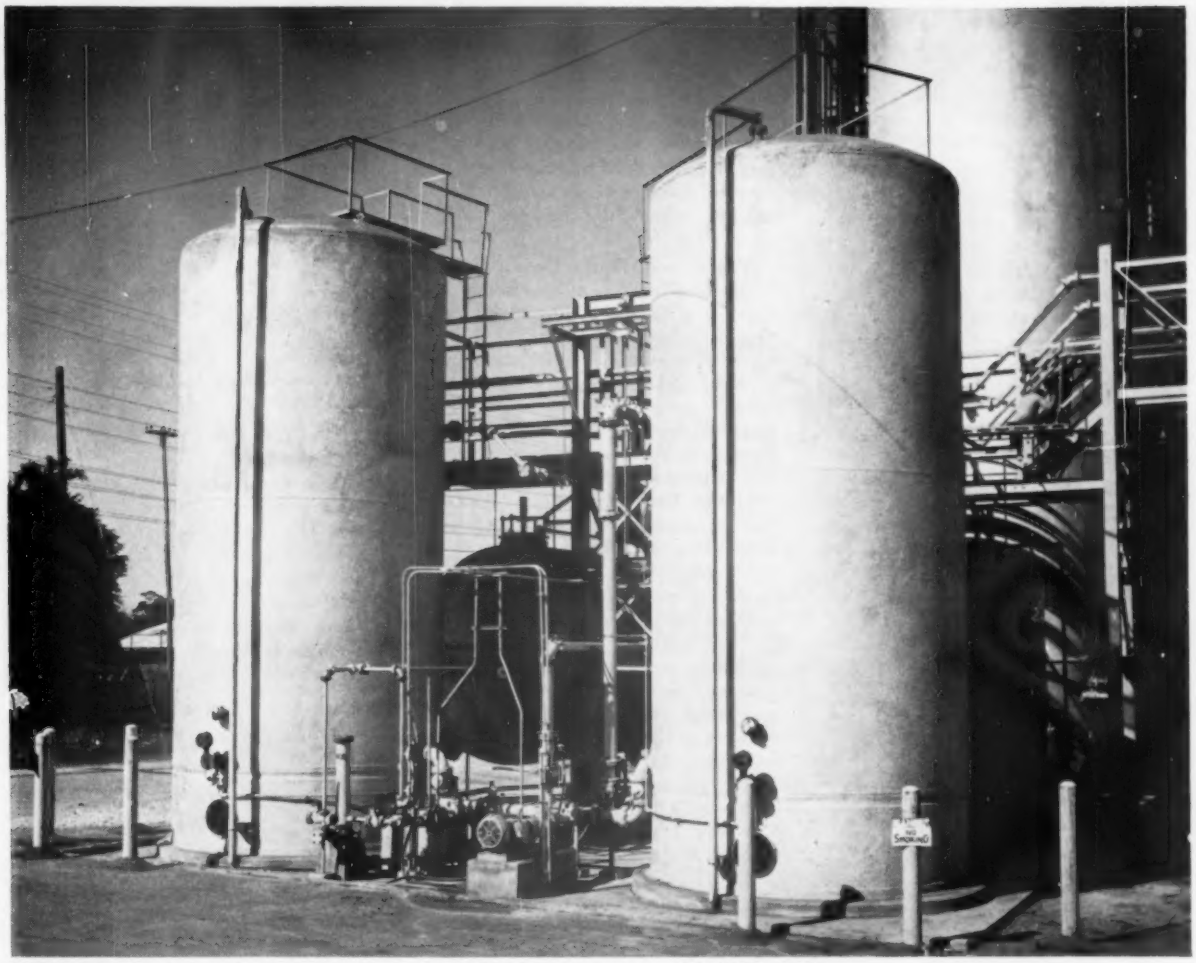
FLUIDICS* AT WORK



Glasteel takes the bite out of corrosive chlorine dioxide at Scott Paper Company's mill in Mobile, Alabama.

How to profitably end corrosion in every phase of ClO_2 generation

If you examined these tanks for dissolving and storing sodium chlorate, you'd find no evidence of corrosion at the constantly shifting liquid-air interface.

The reason? These are Pfaudler Glasteel tanks—*steel* outside for strength, *glass* inside for corrosion resistance. And there is no rust contamination of the chlorate, which can cause troublesome "puffs."

These tanks plus towers, pumps and ClO_2 storage tanks are part of the chlorine dioxide system at Scott Paper Company in Mobile, Alabama. In operation for some 15 months now, there has been no evidence of corrosive attack in any part of the system where Glasteel has been used.

You will also find Glasteel equipment in 38 other progressive pulp mills. And, whether the Solvay or Olin Mathieson process is used, the reports are still the same: Pfaudler Glasteel turns out to be the most *economical* equipment available, in terms of cost, maintenance and service life.

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Warren C. Naugler becomes mgr. of sales and field service for Formex Co., division of Huyck Corp. He was formerly Huyck field service engineer for the New England territory.

W. B. Downes is named to a newly created post for Crucible Steel Co. of America. He will handle executive customer relations for the Stainless Steel div. He has been with the Pittsburgh-based firm 26 years.

F. Richard Convey, gen. sales mgr. of John W. Bolton & Sons and Emerson Mfg. Co. div., Lawrence, Mass., is also directing sales for Bolton Machine Knife div.

The Dyes & Chemicals div. of **E. I. du Pont de Nemours & Co.** will transfer its New York district sales office, laboratory and warehouse to Clifton, N.J., about January 31. Office and laboratory were formerly at 40 Worth St., New York City, while the warehousing operation was at Paterson, N.J. The move is being made to expedite deliveries and to provide quicker sales and technical assistance to customers in northern New York State and northern New Jersey. . . .

Samuel M. Langston Co., Camden, N. J. manufacturer of equipment for making corrugated containers, has adopted a new trademark—third in the 60-year history of the firm. New mark unifies four curves moving at right angles in the shape of a cross, each curve embracing a roll, thereby suggesting webs of paper. . . .

All activities of **Air Reduction Co. Inc.** in the industrial chemical field have been consolidated into a single operating unit. The three chemical divisions—**Air Reduction Chemical Co.**, **Colton Chemical Co.** and **National Carbide Co.**—are now known as **Air Reduction Chemical & Carbide Co.** . . . **Albany Felt Co.**, Albany, N. Y., was recently host to the largest gathering of mill mgrs. and supts. ever to attend a tissue round table discussion sponsored by the firm. . . .

Valley Iron Works Corp., Appleton, Wis. subsidiary of Allis-Chalmers Mfg. Co., has purchased a 10-acre tract adjacent to its present property "to allow for expected growth." . . . **Hurletron Inc.** is a new Delaware corporation formed through merger of two Illinois manufacturers of electronic and mechanical components and automatic controls: **Electric Eye Equipment Co.** of Danville and **Wheaton Engineering Corp.**, Wheaton. The companies now become divisions of Hurletron; an office is to be at 135 South LaSalle St., Chicago. . . .

Stowe-Woodward Inc.'s Wisconsin div. has been enlarged with construction of a 32,300-sq. ft. plant at its Neenah, Wis. headquarters. Manufacturing plants are also maintained at Newton Upper Falls, Mass., and Griffin, Ga. At the new Neenah operation, the world's largest two-wheel grinder has been installed to handle rolls 63 in. in dia. and 380 in. in face length. . . . **Stebbins Engineering & Mfg. Co.** is building at Watertown, N. Y., a laboratory and facilities for processing special proprietary acid-resistant compounds. This is the third major expansion for Stebbins at Watertown since erection of the main building in 1937. . . .

Black-Clawson Co. has acquired the plastic extruder business of the Aetna-Standard div. of **Blaw-Knox Co.**, Pittsburgh. The high-pressure extruders compliment the paper and plastics converting equipment of B-C's Dilts div. B-C will manufacture the equipment at its Hamilton, Ohio plant. Engineering manufacture and sales will be conducted by the newly formed Hale & Kullgren Plastics dept. of the Dilts div., under direction of Richard W. Phelps, division gen. mgr. Mgr. of the new department is J. Walter Couture, former Dilts new products sales director in Akron, Ohio.

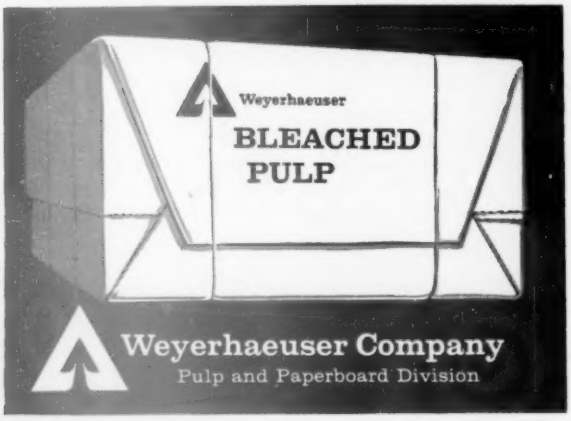
New Office Building for Hyster

Hyster Co. is constructing a general administrative office building of 28,000 sq. ft. floor space at its Portland, Ore. plantsite. Growth of the organization from a Pacific Northwest firm to world-wide producer-marketer of industrial trucks, tractor equipment and heavy-duty trailers necessitated this expansion, according to Philip S. Hill, exec. vice pres.

Walter Q. Jack, with Hooker Western Chemical Div. at Tacoma, Wash., since 1957, is now supervisor of technical service for the division. Prior to joining Hooker, he was with Weyerhaeuser, Everett.

Everett C. Reed is now exec. vice pres., Albany Felt Co. For past three years he has been i/c of Albany's 4 U.S. plants and will continue directing these mills' activities.

R. H. Fairs becomes vice pres. and res. mgr. of Waterbury Felt Co., Skaneateles Falls, N.Y., firm recently acquired by Porrits & Spencer (Canada) Ltd. Mr. Fairs has been mill supt. for the parent firm.



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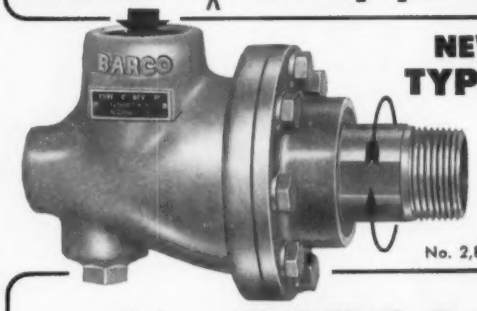

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Experienced Technical Sales Representative now selling Lake State Mills in field of paper and board coatings. Graduate chemist. Laboratory and field experience in handling own technical service. Reply to Box P-315, PULP & PAPER, 370 Lexington Ave., New York 17, N. Y.

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MILLER FREEMAN PUBLICATIONS

The last word

A "Hot Potato" in Canada

President Fowler of the Canadian Pulp & Paper Assn. plunged head-first into one of the touchiest American-Canadian controversial issues when he warned American firms with Canadian subsidiaries they must recognize they are "in another country." He spoke plainly of the growing sensitiveness of Canadians.

He also criticized Canadians who attack American companies for "cheap and easy popular acclaim."

Nationalism is a powerful force in many lands today, not least of these being Canada. It is a moot question as to just when and where a free-swinging discussion of this ticklish subject does good or harm. It was clear enough that Mr. Fowler felt the place to speak up was before the largest audience of Canadian and American paper industry executives to be held this year.

We feel strongly that this is a subject for cool, calm discussion, and not for newspaper headlines.

TAPPI's Gold Medal Winner

Gardner H. Chidester will be one of TAPPI's popular Gold Medal winners.

In his quiet way, he has served this industry well. It is in the field of semi-chemical pulping that Mr. Chidester has made his greatest contribution. But because of his quiet, although very thorough, methods of carrying on his work, his contributions in this field are not very widely known.

They go back to the late 1920's and the tests and preliminary work done by Mr. Chidester and his well-trained assistants at the Madison, Wis., laboratory played an important role in establishment and growth of semi-chemical pulping, not only in the United States, but in other countries. This work at Madison is what decided many companies to go into semi-chemical pulping, extending the species of wood which mills may use for paper and board, and in some cases possibly saving certain mills from virtual extinction. Or, at least, assuring many mills—especially in the Midwest and the East—of a new lease on life and a chance for growth where restricted resources had threatened to curb their growth drastically.

In mill after mill, we have heard top management men frankly express their gratitude for the preliminary assistance given them by Mr. Chidester and his Madison assistants. Even in faraway France, we have heard the proprietor of a mill which is making neutral sulfite semi-chemical pulp, say this:

"I feel a great debt toward America for the assistance given to our company and I hope I can repay it some way. This assistance came to us from Mr. Chidester and his staff at Madison."

A Michigan University graduate, Mr. Chidester was with Kimberly-Clark for over three years, finally as an assistant pulp mill superintendent, then with Paper Industry magazine, but from 1925 onward, he has been with the U.S. Forest Products Laboratory in Madison, since 1942 as its Pulp and Paper Division chief.

Mr. Chidester recently attended the United Nations sponsored conference in Tokyo to aid the development of pulp and paper industries in Asia and the Far East. Later, continuing his tour, he became seriously ill of a gastric infection and was hospitalized in Australia. We are happy to report he is completely recovered, and perhaps the good news of his selection for the Gold Medal by TAPPI's executive committee men helped to get him well.

To repeat, we are sure a lot of industry technical people and others will be pleased to cheer Gardner Chidester when he steps forward at TAPPI's annual convention luncheon in the Commodore in late February to receive the Gold Medal for 1961.

How to Disentangle a Merger

The government order to Scott Paper Co. to un-merge various mergers in which it has participated is to propose a procedure which seems to us to be virtually impossible.

At this stage—ten years and six years later—how in the world can this company go backward and disentangle all the myriad of moves that have been taken to effect these mergers? What happens to the scores of human beings who are involved?

Not only does it seem an impossible feat to achieve at this late stage, but this action can cause much heartache and frustration to literally many hundreds of persons. It just doesn't seem to be realistic, and it certainly doesn't seem to be a just action, after such a long time in which the Soundview and H&W mergers have been in effect.

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